सर्व शिक्षा अभियान
सब पढ़ें सब बढ़ें

Competency Based Teaching Learning

A Quality Initiative

R. T. West Bengal
Library
25/3, B. C. Road

DISTANCE EDUCATION PROGRAMME-SARVA SHIKSHA ABHIYAAN
(DEP-SSA)
(An IGNOU-MHRD, Government of India Project)
Maidan Garhi, New Delhi-110068

सर्व शिक्षा अभियान

सब पढ़ें सब बढ़ें

National Seminar
on
Competency Based Teaching Learning - A Quality Initiative under SSA

Report

Feb. 4 – 6, 2007

Venue: NITTTR, Kolkata, West Bengal

DISTANCE EDUCATION PROGRAMME- SARVA SHIKSHA ABHIYAAN
(An IGNOU-MHRD, GOVT. OF INDIA PROJECT)

Block 7, IGNOU, Maidan Garhi, New Delhi-110068
Tel. No.: 011-29531455, 29531456, 29561457; Fax: 011-29531233
Email: depssa@ignou.ac.in

March , 2008

S. C. E. R. T. West Bengal
Library
25/3, B. C. Road

सर्व शिक्षा अभियान
सब पढ़ें सब बढ़ें

COMPETENCY BASED TEACHING LEARNING: A QUALITY INITIATIVE UNDER SSA

Academic Coordination

Prof. M.L. Koul, Project Director
Dr. Sanjay Kant Prasad, Programme Officer

Organizing Committee

Prof. M.L. Koul	Chairman
Dr. Sanjay Kant Prasad	Coordinator
Prof. J.P. Mittal	Member
Dr. Manoj Kumar Dash	Member

Editors

Prof. Lokesh Koul
Prof. M.L. Koul
Dr. S.K. Prasad

Project Assistance

Mr. G.K. Sharma
Ms. P. Leela Bharathi

Production

Distance Education Programme – Sarva Shiksha Abhiyan
(DEP-SSA),
IGNOU, Maidan Garhi – New Delhi - 110068

CONTENTS

S.No		Page
Foreword		
1	National Seminar On Competency Based Teaching Learning: A Quality Initiative Under SSA	1-22
2	Effects of Activity-Based Textbook on the Achievement of the Learners of Class VI in Science Shri Debendra Kumar Misra, Dr. Bayamanu Charchi and Sh. Chandrasekar,DIET, Jerad, H.P	23-28
3	Innovative Activities in Teaching Symbols *P. Srinivasan, Lecturer, DIET, Tamil Nadu*	29-37
4	Integrated Learning Improvement Programme (Ilip) - An Innovative Initiative In West Bengal *Syed Nurus Salam, Subhajit Mandal and Aniruddha Sarkar, West Bengal*	38-44
5	Ensuring Quality Education through Competency Based Teaching - Learning and Evaluation at Elementary Level *Dr. Vijay P. Singh, UEE Mission (SSA) Delhi*	45-56
6	Competency Based Teaching Learning Quality Initiative Under SSA *Soma Sablok, Chandigarh, Punjab*	57-65
7	An Innovative Approach for Teaching and Learning of Chemical Formula of Compounds *N. Sathi, Directorate Of Teacher Education, Research And Training, Chennai*	66-75
8	An Innovative Approach for Teaching and Learning Square Root *B.Tamil Selvi, Directorate Of Teacher Education, Research And Training, Chennai*	76-85
9	Improving Competency Of Children In Jharkhand Under SSA *Pramod Kumar Sinha*	86-97
10	"Quality Tracking" –A District Initiative for Ensuring Quality Education in Elementary Schools - An Impact Study *C. Babu, DIET, Kerala*	98-108
11	Diagnosis and Remediation of Language Disabilities of Primary School Children *Dr. Arvind Sharma And Dr. D. Venkateshwarlu, MPJ Rohilkhand University, Bareilly*	109-118

I would like to express my gratitude to the Department of School Education, MHRD, Govt. of India for sponsoring the National Seminar. I am highly grateful to Prof. V.N.Rajasekharan Pillai, Vice-Chancellor, IGNOU and Chairman, Advisory Committee, DEP-SSA for providing necessary administrative and academic guidance and support for smooth conduct of the Seminar. I am especially thankful to the chairpersons who facilitated the seminar with their rich experiences and also the organizations who deputed their faculty for participation in the seminar.

I appreciate the sincere effort of faculty, consultants and other staff members of DEP-SSA who took up the onerous responsibility for organizing this National Seminar and bringing out this publication for wider dissemination to stakeholders associated with quality elementary education all over the country.

I hope this document will reinforce the teachers, teacher educators and other SSA functionaries for their professional development and to take up more studies in this area for making required modification time to time and evolve innovative, time and cost effective activity based teaching and learning in elementary education.

March , 2008
New Delhi

(M.L. Koul)
Project Director
DEP-SSA, IGNOU

NATIONAL SEMINAR ON COMPETENCY BASED TEACHING LEARNING: A QUALITY INITIATIVE UNDER SSA

Background

The initiative of Distance Education Programme-Sarva Shiksha Abhiyan (DEP-SSA) is an attempt towards the capacity building of teachers and SSA functionaries through distance mode. All states/UTs are making their best efforts to achieve the quality in elementary education. It is to mention that only reading, writing and doing simple mathematical operations do not improve the quality unless the child is able to master the competency in the concerned subjects. Quality does not come by an accident, it needs a strategic planning, designing and implementation of the programme based on the empirical findings so that the competency is build and quality achieved accordingly.

Different states have taken different steps to improve the quality of elementary education. Assam has introduced the competency based teaching learning through activity based textbooks and children workbooks in the school. They have also started the use of lesson plan and TLMs which are discussed in the monthly BACG meeting. They have also introduced the scheme of periodic evaluation process with improvised tools for which question banks were provided to each school. Tamil Nadu has also introduced the activity based teaching-learning. Maharashtra is implementing 3R's guarantee programme. In the same way other states are also initiating competency based teaching-learning in one form or the other.

It is a healthy sign that necessary steps are being taken towards the all-round development of the learners' personality at the elementary school level which certainly will help in improving the quality in elementary education, which is one of the major objectives of SSA to be achieved by 2010. Though various steps have been taken towards the improvement of the quality of elementary education right from the beginning of SSA, yet the quality remains a big concern even today. On one side the enrolment has increased to a desirable level but at the same time the quality has not improved to a satisfactory level. ASER (Annual Status of Education Report) 2005 indicates 35% of all children in the age group 7-14 years could not read simple paragraphs and close to 52% could not read a short story. The survey further indicates that 41% children are unable to do either a two-digit subtraction or division problem. The alarming facts and figures given by the survey are a matter of serious concern. It is also an indicator to take immediate steps to address these important issues to improve the quality of elementary education. It is in the light of these facts that DEP-SSA has organized a National Seminar on **Competency Based Teaching Learning, a Quality Initiative under SSA** to achieve the following objectives.

Objectives

- To identify the initiatives taken by the states to ensure quality of teaching and learning at elementary stage.
- To discuss the innovative strategies to meet varied needs of children in classroom situation.
- To identify the quality parameters of training programme for teachers at elementary stage.
- To explore the alternative methods of making teaching and learning effective at elementary stage.

Themes

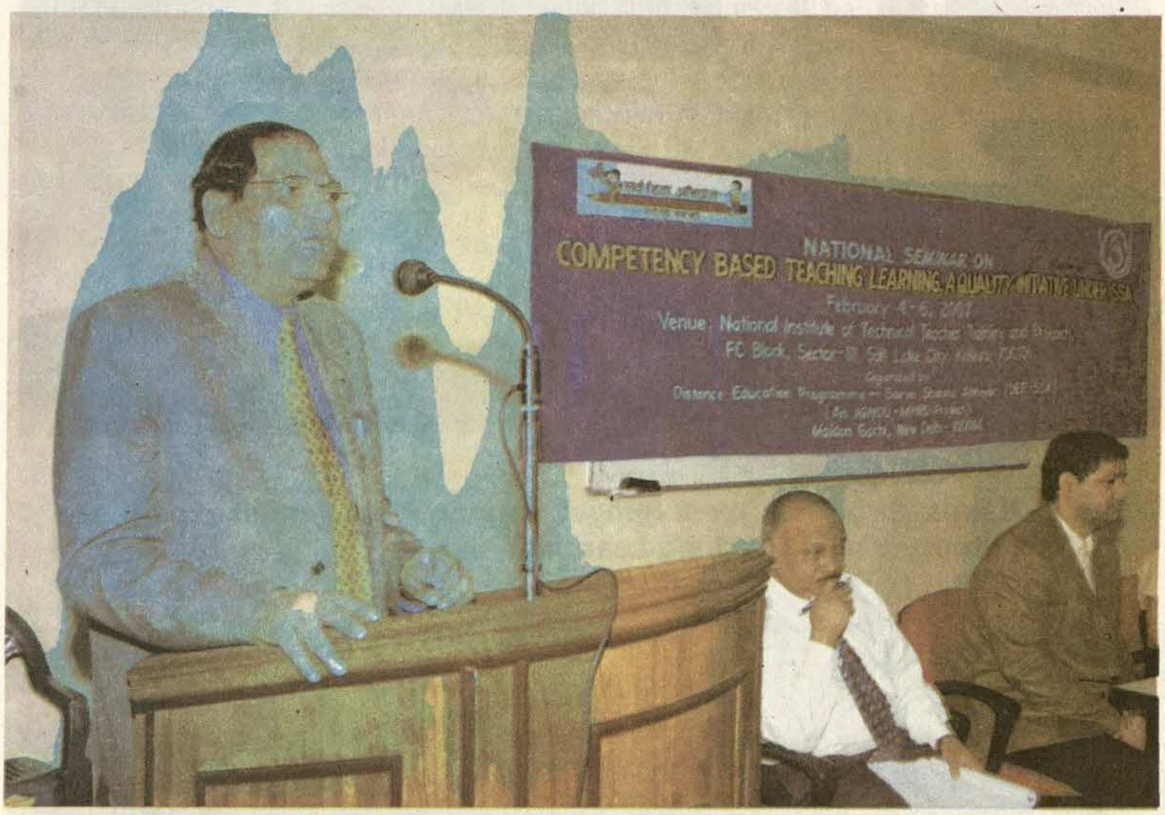
- **Initiative for competency based teaching and learning**
  Identification of competencies, introduction of activity based textbooks, use of lesson plans and TLMs.
- **Action Research and Quality Education**
  In-service teacher education programme and classroom teaching.
- **Curriculum Transaction, ICT and Achievement of Children at elementary stage**
  Strategy for technology based teaching, use of ICT for effective classroom teaching, children participation in classroom, child-centred approach with regard to real life situation.

February 4, 2007 (Sunday)

11.00 am-11.45 am **Inaugural Session**

The inaugural session started with the welcome to the Chief Guest, Mrs. Nandita Chatterjee, IAS, Principal Secretary (Education), Govt. of West Bengal and participants of the National Seminar by Prof. M.L. Koul, Project Director DEP-SSA, IGNOU. In his introductory remarks he expressed that it was a great opportunity for him to welcome Mrs. Nandita Chatterjee, who has spared her valuable time and graced this seminar by her presence. He also welcomed Shri D. Nariala, State Project Director, West Bengal and Shri L.M.T. Fernandes, State Project Director, SSA, Goa and other distinguished guests for their kind presence at the inaugural session. He also welcomed the participants who have come to present their papers in different sessions during the three days deliberations.

The Project Director stated about the detailed activities of SSA particularly in the context of Distance Education Programme of IGNOU. He elaborated that the main objective of seminar is to provide a forum to teachers, teacher educators and other functionaries associated with SSA to share their experiences so that innovative ideas could be experimented and replicated in other states. He also stated about the role of IGNOU to assure standard and quality of education in the length and breadth of our country. Prof. Koul informed that in this seminar 21 papers will be presented followed by discussions. Selected papers presented in the seminar would be published and circulated among educational institutions and the agencies associated with SSA all over the country. He hoped that this seminar will further motivate teachers and other functionaries to undertake more research studies on the competency based teaching learning as a quality initiative under SSA.


NATIONAL SEMINAR ON
COMPETENCY BASED TEACHING LEARNING A QUALITY INITIATIVE UNDER SSA

Prof. M.L.Koul, Project Director, DEP-SSA, IGNOU Welcoming the participants and guest

Dr. S.K. Prasad, Programme Officer, DEP-SSA, IGNOU gave detailed account about the activities and mandate of DEP-SSA and also about three days programme schedule. He also informed that all the technical sessions of the seminar will be chaired by the eminent educationists in the field. He acknowledged the support and cooperation received by the state project director and other officials of SSA, West Bengal.

Shri. D. Nariala, State Project Director, West Bengal shared in detail about the activities undertaken by SSA, West Bengal for competency based teaching learning for bringing quality in elementary education in the state of West Bengal. He assured all sorts of support and cooperation for making this seminar success.

NATIONAL SEMINAR ON
COMPETENCY BASED TEACHING LEARNING A QUALITY INITIATIVE UNDER SSA

Shri D. Narala, SPD, SSA, West Bengal, sharing West Bengal experience on Competency Based Teaching Learning

NATIONAL SEMINAR ON
COMPETENCY BASED TEACHING LEARNING A QUALITY INITIATIVE UNDER SSA
February 4-6, 2007
Venue: National Institute of Technical Teacher Training and Research
FC Block, Sector III, Salt Lake City, Kolkata 700106
Organised by
Distance Education Programme – Sarva Shiksha Abhiyan (DEP SSA)
(An IGNOU-MHRD Project)
Maidan Garhi, New Delhi 110068

Shri LMT Fernandes, SPD, SSA, Goa, addressing the participan

Shri L.M.T. Fernandes, State Project Director, Goa also shared his views and stressed the need for competency based teaching-learning in enhancing the quality parameter in elementary education.

The Chief Guest Mrs. Nandita Chatterjee, IAS, Principal Secretary (Education), Govt. of West Bengal in her inaugural address congratulated Prof. Koul for organizing the seminar on a very relevant theme related to the competency based teaching learning under SSA. In her address she appreciated the effort of IGNOU in providing training to teachers under SSA as this is the major task which needs to be accomplished within a target period. She told that the basic necessity of the education at elementary level is to read, write along with the development of capacity to comprehend. She expressed her dissatisfaction, as the elementary education to all in West Bengal is not a success rather the state is lagging behind in this mission. Consequently she requested Prof. Koul for providing support in making a comprehensive plan for teacher training so that Govt. of West Bengal could achieve the target in providing elementary education to all. Prof. Koul assured that necessary support will be provided as and when needed.

Mrs. Nandita Chatterjee, IAS, Principal Secretary (Education) Govt. of West Bengal, delivering the inaugural address

The inaugural session ended with vote of thanks by Dr. Prasad.

12.00 noon-01.30 pm **Technical Session I**

Theme: Initiative for Competency Based Teaching and Learning

The first technical session of the seminar was on the theme: *Initiative for Competency Based Teaching and Learning.* It was chaired by Sh. D. Nariala SPD, West Bengal. Prof. M.L. Koul, Project Director, DEP-SSA introduced the Chairperson to the participants. Shri Nariala emphasized the need for providing training to the teachers to ensure the competency of teachers and learners. According to him quality of teaching, learning and training is an issue keeping in view the ratio of teachers and students. The following papers were presented in this session:

A view of the Interaction during Deliberation

1. The paper titled: *Effects of Activity Based Text Books on the Achievement of Learners of Class VI in Science was* presented by Shri Debendra Kumar Mishra. He explained about the selection of learning competencies from the text books based on activities and transaction of competencies, using appropriate activities given in the text. The following points emerged out of the presentation:

    i) The Science text books of Class VI are befitting for the learners.
    ii) There is substantial gain in the post-test due to the clarity of the text content pertaining to activity.

iii) The students were involved actively in the teaching-learning process.
iv) They were interested to conduct experiments by themselves using the textbooks as a model.
v) Concepts could be clarified easily through simple experiments as reflected in the textbooks.
vi) Students got benefited through pair work and group work while conducting the experiments.
vii) The feeling of cooperation was marked in the students through collective work.

2. Sh. P. Srinivasan from Tamil Nadu presented research paper on the theme: *Innovative Activities in Teaching Symbols*. The following points emerged out of the paper presentation:

    i) The use of play way and activity based method results in higher achievement. Teachers can innovate similar activities and utilize them in their teaching.
    ii) Students were found enthusiastically participating throughout the programme and, were self-motivated throughout the programme
    iii) Innovative activities help the students to understand the concepts easily.
    iv) Students were found to be more attentive during innovative activities.

3. The paper titled: *Integrated Learning Improvement Programme (ILIP) – An Innovative Initiative in West Bengal* was presented by Shri Syed Nurus Salam, West Bengal. The paper discussed in detail about the integrated learning improvement programme with the following features:

    i. Changes in classroom were brought through creation of joyful learning situations graded competency based learning tasks, group learning & peer learning, self-learning & self assessment of children, child centric learning task, judicious time & task management and inculcation of socio centric ideas.
    ii. Learning through 'mastery of competencies' was ensured through systematically designed and graded workbooks, continuous assessment on child's competency through continuous experimentation and evaluation.

All the three papers were discussed at length and the required modifications were suggested by the house.

2.30 pm-4.00 pm Technical Session II

Theme: Initiative for Competency Based Teaching and Learning

The technical session II continued with the theme *: Initiative for Competency Based Teaching and Learning* in which three papers from Delhi, Punjab and Tamil Nadu were presented. The session was chaired by Sh. LMT. Fernandes, State Project Director, Goa. He was introduced by Prof. M.L. Koul, Project Director, DEP-SSA to the participants. Sh. Fernandes expressed that the quality training to the teachers will be instrumental in bringing quality education. He also spoke about the status of education in Goa. Prof. Koul expressed that the change of educational scenario in Goa towards quality education was possible only by the effort of Sh. Fernandes.

1. The first paper titled: *Ensuring Quality Education through Competency Based Teaching-Learning and Evaluation at Elementary Level* was presented by Dr. Vijay P. Singh from Delhi.

This paper dealt with the presentation of various dimensions of the competency based approach to see its fruits in form of the universal achievement, retention in the school and progress of the children from one level to the other. It was concluded that the competency based approach is both diagnostic as well as formative in nature. It is much more objective than any other approach and thus more suitable in bringing a sustainable improvement in the quality of elementary education which will definitely help in reducing the drop-out rate of children from schools.

2. The second paper entitled *Competency Based Teaching Learning Quality Initiative under SSA* was presented by Ms. Soma Sablok from Punjab.

The paper suggests that the student's motivation is the need of the hour for their retention in the schools. For achieving this goal, comparison of the ideal and real models of learning process should be made so that appropriate study strategies are planned. Courses may be developed by IGNOU in this perspective. The following points emerged out the discussion:

i) Enrichment courses must be launched both for the students and the teachers.
ii) More learning resources must be provided.
iii) Programme options must be offered to the students/learners.
iv) Telamatics must be made compulsory for the teachers.

3. The third paper entitled: *An Innovative Approach for Teaching and Learning of Chemical Formula of Compounds was* presented by Sh. N. Sathi from Tamil Nadu.

The paper highlighted that quality of elementary education can be ensured by the adoption of innovative, learner-centred, participatory approaches of teaching and learning. The teachers should be innovative in designing suitable teaching learning strategies which enhance the learning of students upto the higher cognitive levels. The schools should provide a platform for all round development of a child and attainment of all the competencies as prescribed in the curriculum and syllabus. The teachers of science, especially chemistry should ensure the understanding and application of competencies whereas mere accumulation of knowledge or facts for the sake of examinations will fetch the outcomes for the short term only without contributing for transfer of learning.

In the end the chairperson of the session expressed his satisfaction over the content, presentation and language of the papers.

The session ended with vote of thanks to the Chair.

4.15 pm-5.30 pm Technical Session III

Theme: Initiative for Competency Based Teaching and Learning

The technical session III alos continued with the theme: *Initiative for Competency Based Teaching and Learning* in which two papers, one from Tamil Nadu and one Jharkhand were presented. The session was chaired by Prof Raghupati Srinivasan, Dept. of Education, NITTTR. Prof. M.L. Koul, Project Director, DEP-SSA introduced the Chairperson to the participants, and highlighted the contributions of Prof. Srinivasan in organizing the National Seminar. In his introductory remarks Prof. Srinivasan briefed about the innovative approach towards improving competency of teachers at various levels of education.

1. The first paper titled: *An Innovative Approach for Teaching and Learning Square Root* was presented by Ms. B. Tamil Selvi from Tamil Nadu.

The paper emphasized that the interest of students is one of the principal factors of the performance of students. The students work more effectively when their interest is aroused and sustained. This is possible when the competencies are taught in an effective and innovative manner involving students in activities. The activities enhance the understanding of students and they participate actively in the learning process. The participatory, learner centered approaches enable students to think creatively and to apply the concepts in their real life situations.

The teacher must be innovative in designing activities in classroom that maximize the students' learning. If they are professionally committed and they have positive attitude in teaching, the objectives of elementary education can be achieved and its quality can be sustained.

2. The second paper on the theme: *Improving Competency of Children in Jharkhand under SSA* was presented by Dr. Pramod Kumar Sinha, from Jharkhand. The paper highlighted the following points:
   i) There should be optimal utilization of existing health and sanitation facilities of the schools – it requires an extensive training on health and sanitation to students and teachers.
   ii) Workshops should be organized for VECs to develop vision for development of education in villages
   iii) Proper and optimal utilization of science and mathematics tools available in schools.
   iv) The VEC should ensure the meetings of the teachers and parents during the sessions.
   v) Utilization of money of TLE should be ensured.
   vi) Teaching should be in mother tongue as far as possible.
   vii) There should be active participation of BRPs/CRPs in the teaching-learning process.

The session ended with the remarks and thanks of the Project Director, DEP-SSA.

February 5, 2007 (Monday)

10.00 am-11.30 am Technical Session IV

Theme: Action Research and Quality Education

The second day of the National Seminar was started with the welcome by Dr. S.K. Prasad. He requested Prof. M.L. Koul to initiate the session.

The technical session IV was on the theme: *Action Research and Quality Education* where two papers, one each from Kerala, and Uttar Pradesh were presented. The session was chaired by Sh. L.M.T. Fernandes, State Project Director, Goa. In his introductory remarks Sh. Fernandes stressed that one should develop technical theory systematically in the teaching learning research in order to achieve quality in the education.

1. The first paper titled *Quality Tracking – A District Initiative for Ensuring Quality Education in Elementary Schools – An Impact Study* was presented by Shri C. Babu from Kerala. The objectives of the study were to:

   i) Assess the existing situations of class room processes, student achievement and school level support structures.

   ii) Analyse the existing situations and to find out the actual problems in connection with student achievement.

   iii) Develop and implement a comprehensive quality package (Quality - Tracking).

   iv) Assess the impact of the implementation of the quality package in terms of students achievement and school level support

The results revealed student achievement of competencies in different subjects and the teacher capacity for deriving multi level activities, graded assignments and development of TLM.

2. The second paper titled: *Diagnosis and Remediation of Language Disabilities of Primary School Children* was presented by Sh. Arvind Sharma from Uttar Pradesh.

The results of study presented in the paper revealed that research on learning and teaching are on the threshold of providing the kind of knowledge that could lead to real advances in the area of language disability. The presentation of research paper was discussed broadly.

The session ended with a vote of thanks to the Chair.

11.45 am-01.30 pm Technical Session V

Theme: Action Research and Quality Education

The technical session V continued with the theme: *Action Research and Quality Education* where three papers one each from Andhra Pradesh, Orissa and Arunachal Pradesh were presented. The session was chaired by Prof. M.L. Koul, Project Director, DEP - SSA.

1. The first paper titled: *Effectiveness of Class III Mathematics Text Book: A Perceptual Study* was presented by Smt. L. Sridevi from Andhra Pradesh.

The paper concluded that the mathematics as an important subject of school has pushed and is pushing forward the frontiers of scientific and technical knowledge, discovery and invention. It has also rich potentialities of providing true enjoyment to its students. The teaching and learning of Mathematics presents numerous day to day problems to teachers and students. However, due to inefficient and stereotyped methods of teaching, Mathematics is decried as dull and dry.

2. The second paper titled: *Analysis of theTry-out of the Competency Based Test Items in Four Selected Schools of Khallikote Block in Ganjam District of Orissa was* presented by Sh. Govind Chandra Pradhan from Orissa.

The Objectives of the study was to examine the accessibility of the learners to the test items, to examine the strengths and weaknesses of the test-items through try-out and to find out suggestive points for enrichment of future try-out exercises.

3. The third paper titled: *Assessment of Training Programme under Sarva Shiksha Abhiyan Training* was presented by Sh. S.K. Dey from Arunachal Pradesh.

The objectives of the study was to find out the impact of imparted training programme in teaching learning practice, to know about the methods of teaching adopted by the teachers and to develop locally useful low cost/no cost teaching aids.

The study reveals overall average positive impact on teachers. The session ended with a vote of thanks to Chair.

2.30 pm-5.30 pm Technical Session VI

Theme: Curriculum Transaction, ICT and Achievement of Children at Elementary Stage

The technical session VI was devoted to the theme: *Curriculum Transaction, ICT and Achievement of Children at Elementary Stage* where three papers one each from Andhra Pradesh, Uttaranchal and Orissa were presented. The session was chaired by Dr. R.N. Dey, Director, SCERT, West Bengal who was welcomed by Prof. M.L. Koul, Project Director, DEP-SSA. He expressed his gratitude towards Dr. Dey for accepting the invitation and chairing the session. In his introductory remarks Dr. Dey intimated the participants about the number of institutions in West Bengal providing educational programmes. He also assured to have a linkage with SSA in order to bring quality education through SCERT in the state.

1. The first paper titled *Curriculum Transaction - Use of ICT for Effective Classroom Teaching at Elementary Stage was* presented by Dr. Sujatha Pattanaik from Orissa. The objectives of the study were to:

i) Assess the utility of the audio-cum-radio programme SURAVI I, II & III for the target group.
ii) Estimate the problem of audio –cum-radio programmes and suggest remedial measures.
iii) Appraise the practical classroom implication of the programme.
iv) Categorise minimum competencies achieved by different group of children.
v) Examine the level of participation of the target groups.
vi) Find solution for quality improvement.

2. The second paper titled *Study and Solution of Problems of TLM Development for Joyful Teaching-Learning Process in Multigrade & Multi level Teaching Situation* was presented by Sh. R.B. Singh from Uttaranchal.

The study revealed that during the implementation of action research the achievements of the children were reflected in terms of their interest and enthusiasm towards the TLM and its use in joyful activities.

3. The third paper titled *Primary School Teachers' In-service Teacher Education Programme on Classroom Transaction* was presented by Sh. K. Ramu from Andhra Pradesh.

The objectives were to study the effectiveness of training in terms of knowledge among the participants and to assess the impact of training on actual classroom teaching by way of curriculum transaction. The implications of the study indicate that the need based training material, competent resource persons, and appropriate transactional approaches will lead to an efficient and effective training so that training gains can be used maximum by way of their classroom transaction. The paper was discussed in detail.

The session ended with a vote of thanks to the chair.

February 6, 2007 (Tuesday)

10.00 am to 1.30 pm **Technical Session VII**

Theme: Curriculum Transaction ICT and Achievement of Children at Elementary Stage

The technical session VII continued with the theme: *Curriculum Transaction, ICT and Achievement of Children at Elementary Stage* where two papers from Tamil Nadu, one paper from Orissa and one paper from Kerala were presented. The session was chaired by Dr. S.K. Ghosh, Regional Director, IGNOU, Kolkata who was welcomed by Prof. M.L. Koul, Project Director, DEP-SSA. He expressed his gratitude towards Dr. Ghosh for accepting the invitation and chairing the session. Dr. Ghosh appraised the participants about various teaching-learning methods of IGNOU in general and the activities of the Regional Centre, Kolkata in particular. Thereafter, he emphasized that distance education under the banner IGNOU is really crossing all kinds of geographical boundaries through ICT at present. He also cited the examples of Gyan Vani and Gyan Darshan of All India Radio and Door Darshan respectively in taking revolutionary development towards dissemination of higher education.

1. The first paper titled: *Parental Participation and Academic Improvement – A Study with Disabled Primary School Children* was presented by Prof. Nammalvar from Tamil Nadu.

The objectives of the study were to compare the level of academic achievement of the students in whom parents participated in the educational process with a group of students in whom the parents did not participate in the educational process and to find out whether male and female students differ in their achievements when the parents participated in education. The results revealed that academic achievement of a student is influenced by multiple factors such as family and school environment, teachers and method used by them, structure of the family and help by the family members etc. It was also revealed that parental involvement make definite effect on the academic achievement of boys and girls.

2. The second paper titled: *Performance of a Student-Trainee of Pre-service Training Class in the Competency Based Teaching-Learning was* presented by Smt. Snehamayee Senapati from Orissa.

The paper was based on a case study which highlighted the art of preparing competency based lesson plan and also the skill in transacting the lesson.

3. The third paper titled: *Classroom Application of Folk Games in Developing Competencies – An integrated Approach* was presented by Sh. V. Mohanachandran from Kerala.

The objectives of the study were to identify folk games familiar to children and to provide suitable learning experiences based on them, to find out the possibilities of applying folk games in motivating children to learn, to utilize the same folk game for developing different competencies in curricular areas of Language, Mathematics and Environmental studies, to install in teachers and pupils the value of our rich culture, traditions, customs and practices.

The major findings indicated that children were found more interested in games which are associated with singing. Children who are found shy to talk and sing openly were found overcoming this limitation in folk games. It was also found that play way method provides ample opportunities for learner-learner and learner-material interaction apart from teacher-learner interaction common in our traditional classrooms. Co-operative learning activities are rare in our normal classroom practices. Another notable finding of the study was that the inclusion of folk games as a strategy of learning helped children to develop qualities such as co-operation, healthy competition, team spirit, leadership, wait for ones own turn etc.

4. The fourth paper titled: *Role of Effective Strategies on Enhancing the Communicative Competence* was presented by Ms. A. Johita Begum from Tamil Nadu.

The paper highlighted the role of various agents in enhancing the communicative competence.

The session ended with a vote of thanks.

2.30 pm - 3.30 pm Technical Session VIII
(Group Discussion & Presentation)

After the end of the technical session VII the participants were divided in three groups for the theme-wise group discussion on different topics on the next day. The session ended with a vote of thanks to the Chairman.

Group I

The group consisted of the following members:

i) Shri C. Babu (Kerala)
ii) Smt L. Sridevi (Andhra pradesh)
iii) Shri Govind Chandra Pradhan (Orissa)
iv) Dr. Arvind Sharma(Uttar Pradesh)
v) Sh. S.K. Dey (Arunachal Pradesh)

The group deliberated on the theme:***In-service teacher training programme***. On the basis of the discussion, the recommendations of group I are as follows:

In-service Training
The training programme for teacher should be planned and organized keeping in view local specific needs.

- The training needs of teacher /teacher educators should be assessed and consolidated.
- The training programme should be experience based.
- The teachers should get the chance to share their experiences of the field.
- The emphasis should be given on new/modern training strategies in the field of classroom transaction.
- Teacher education programme should incorporate the strategies for addressing the issues like multi level, multi grade teaching.
- The latest technological strategies should be adopted for in-service teachers programmes.
- The education programmes through distance education mode using the facilities of EduSat may be given preference.

Group II

The group consisted of the following members:

i) Shri Debendra Kumar Mishra (Orissa)
ii) Shri K. Ramu (Andhra Pradesh)
iii) Ms. Soma Sablok (Punjab)
iv) Shri P. Srinivasan (Tamil Nadu)
v) Pramod Kumar Sinha (Jharkhand)

The group II deliberated on the theme: ***Identification of Competencies, Introduction of Activity based Text Books, Use of Lesson Plans and TLM.*** The recommendations of the group are given below.

- Local based content and activity should be included in the teaching.
- The activity should be selected on the basis of the content.
- Topic may be introduced through a game/song/role play method.
- Lesson plan must be prepared according to the objectives of the topic.
- Lesson plan must be attainable within a particular time frame.
- Teaching learning material should be prepared according to the topic.
- The component of the lesson plan should include objective, motivation, TLM/TLR, methodology, encapsulation, evaluation and follow-up.

Group III

The group consisted of the following member:

i) Shri N. Nammalvar (Tamil Nadu)
ii) Shri V. Mohanachandran (Kerala)
iii) Dr. A. Jahitha begum (Tamil Naidu)
iv) Sh. Kartikeswar Behera (Orissa)
v) Sh. R.B. Singh (Uttaranchal)

The group III deliberated on the theme: ***Strategies for Technology Based Teaching, Children's participation in classrooms and child centred approach.*** The recommendations of the group are presented below.

- A resource room with computer facility should be available in a school.
- A school should have a TLM corner.
- A multi media kit should be available for upper primary level.
- Computer education should be compulsory for teachers.
- Bulletin board should be maintained in the class room and updated.
- There should be display of creative work done by students such as drawing, poems, models etc.
- A final discussion should be arranged in schools.

3.30 pm-4.30 pm **Valedictory Session**

The valedictory function started with the welcome of Shri D. Nariala, State Project Director, SSA, West Bengal by Prof. M.L. Koul, Project Director, DEP-SSA, IGNOU. He expressed his gratitude towards Shri Nariala for accepting the invitation to grace the occasion. A flower bouquet was presented to the Chief Guest on behalf of DEP-SSA. Prof. Koul addressed the gathering for their presence to make this seminar a grand success wherein various educational situations have been focused. A brief report about the three days proceedings of National Seminar was presented by Dr. S.K. Prasad, Programme Officer, DEP-SSA. All the vital issues emerged out of the seminar were broadly discussed for implementation at various levels. The three participants gave the feedback about the overall management and academic discussion of the seminar on behalf of the whole group. They expressed their satisfaction to a greater extent on the overall arrangements, management and successful outcome of the seminar.

In his valedictory address Shri Nariala congratulated the Project Director and the DEP-SSA staff for organising the National Seminar on a very significant topic related to SSA. He emphasized the role of teacher as well as community including parents in maintenance of quality in elementary education. Shri Nariala expressed that quality competency based teaching learning plays an important role in classroom transaction. He quoted his experience in this regard and also emphasized to organize frequent training programmes for teachers in the area of competency based teaching. He also highlighted the role of research particularly the action research for teacher. The action research provides a new path to the teacher so that they could be able to solve their problems and make their teaching interesting for the benefit of the children. He thanked DEP-SSA for organizing the seminar in West Bengal. The vote of thanks was proposed by Dr.S.K. Prasad, Programme Officer, DEP-SSA, IGNOU. The seminar ended with thanks to the Chair.

The programme schedule of the Seminar is as follows:

National Seminar
On
Competency Based Teaching Learning, A Quality Initiative under SSA

DEP-SSA, IGNOU

February 4-6, 2007

Venue: Seminar Hall,
NITTTR, FC Block,
Sector III, Salt Lake City,
Kolkata-6, West Bengal

Programme Schedule

Date/Day	Time	Sessions
February 4, 2007 (Sunday)	10.00 am – 11.00 am	**Registration**
	11.00 am – 11.45 am	**Inaugural Session** Welcome Address *Prof. M.L. Koul, Project Director, DEP-SSA* Introduction to the seminar *Dr. S.K. Prasad, Coordinator, National Seminar* Address by Guest of Honour *Vice-Chancellor, NSOU, West Bengal* Inaugural Address by the Chief Guest *Principal Secretary, West Bengal* Vote of thanks *Dr. S.K. Prasad*
	11.45 am – 12.00 noon	***Tea Break***
	12.00 noon – 01.30 pm	**Technical Session I** ***THEME: Initiative for Competency Based Teaching and Learning.*** **Chairperson** : Sh. D. Nariala, SPD, West Bengal o Effects of Activity-based Textbook on the Achievement of the Learners of Class VI in Science *Sh. Debendra Kumar Mishra*

Date/Day	Time	Sessions
		○ Innovative Activities in Teaching Symbols *Mr. P. Srinivasan* ○ Integrated Learning Improvement Programme (ILIP) – An Innovative Initiative in West Bengal *Sh. Syed Nurus Salam*
	01.30 pm – 02.30 pm	***Lunch Break***
	2.30 pm – 4.00 pm	**Technical Session II** ***THEME: Initiative for Competency Based Teaching and Learning*** **Chairperson** : Sh. L.M.T. Fernandes, SPD, Goa ○ Ensuring Quality Education through Competency Based Teaching-Learning and Evaluation at Elementary Level *Dr. Vijay P. Singh* ○ Competency Based Teaching Learning Quality Initiative under SSA *Smt. Soma Sablok* ○ An Innovative Approach for Teaching and Learning of Chemical Formula of Compounds *Sh. N. Sathi*
	4.00 pm – 4.15 pm	***Tea Break***
	4.15 pm – 5.30 pm	**Technical Session III** ***THEME: Initiative for Competency Based Teaching and Learning*** **Chairperson** : Prof. Raghupati Srinivasan, NITTTR, Kolkata ○ An Innovative Approach for Teaching and Learning Square Root *Ms. B. Tamil Selvi* ○ Improving Competency of Children in Jharkhand under SSA *Dr. Pramod Kumar Sinha*

February 5, 2007 **(Monday)**	10.00 am – 11. 30 am	**Technical Session IV** ***THEME : Action Research and Quality Education*** **Chairperson :** Sh. L.M.T. Fernandes o "QUALITY TRACKING" – A District Initiative for Ensuring Quality Education in Elementary Schools – An Impact Study *Sh. C. Babu* o Diagnosis and Remediation of Language Disabilities of Primary School Children *Sh. Arvind Sharma*
	11.30 am – 12. 00 am	***Tea Break***
	12. 00 am – 01.30 pm	**Technical Session V** ***THEME : Action Research and Quality Education*** **Chairperson :** Prof. M.L. Koul o Effectiveness of Class III Mathematics Text Book: A Perceptual Study *Smt. L. Sridevi* o Analysis of the Try-Out of the Competency Based Test Items in Four Selected Schools of Khallikote Block in Ganjam District of Orissa *Sh. Govinda Chandra Pradhan* o Assessment of Training Programme under Sarva Shiksha Abhiyan Training *Sh. S.K. Dey*
	1.30 pm – 2.30 pm	***Lunch Break***
	2.30 pm – 4.00 pm	**Technical Session VI** ***THEME : Curriculum Transaction, ICT and Achievement of Children at elementary stage*** **Chairperson :** Dr. R.N. Dey Director, SCERT o Curriculum Transaction - Use of ICT for Effective Classroom Teaching at Elementary Stage *Smt. Sujatha Pattanaik*

		○ Study and solution of problems of TLM Development for joyful Teaching-learning Process in Multigrade & Multi-level Teaching Situation. *Sh. R.B. Singh*
	4.00 pm – 4.15 pm	***Tea Break***
	4.15 pm – 5.30 pm	*Session Continued...* ○ Primary School Teachers' In-service Teacher Education Programme on Classroom Transaction *Sh. K. Ramu*
February 6, 2007 **(Tuesday)**	10.00 am – 11. 15 am	**Technical Session VII** ***THEME : Curriculum Transaction, ICT and Achievement of Children at elementary stage*** **Chairperson** : Dr. S.K. Ghosh, RD, IGNOU ○ Parental Participation and Academic Improvement- A Study with Disabled Primary School Children *Prof. Nammalvar* ○ Performance of a Student-Trainee of Pre-service Training Class in the Competency Based Teaching-Learning *Snehmajee Senapati*
	11.15 am to 11.30 am	***Tea Break***
	11.30 am – 1.30 pm	*Session Continued...* ○ Classroom Application of Folk Games in Developing Competencies – An Integrated Approach *Sh. V. Mohanachandran* ○ Role of Effective Strategies on Enhancing the Communicative Competence Smt. A. Johitha Begum
	1.30 pm – 2.30 pm	***Lunch Break***
	2.30 pm – 3. 30 pm	**Technical Session VIII** **Panel Discussion (Group Discussion)** • Competencies and Skills of a Teacher • Curriculum Transaction in the Classroom
		•

Library

	3.30 to 4.30	**Valedictory Session** • Welcome Address – Dr. S.K. Prasad • Presentation of Proceedings of three day Seminar • Address by Project Director, DEP-SSA, *Prof. M.L. Koul,* • Observation on three day seminar (Two or Three participants) Sh. LMT Fernandes • Valedictory Address by Chief Guest Sh. D. Nariala • Vote of Thanks *Dr. S.K. Prasad, Programme Officer, DEP-SSA*

EFFECTS OF ACTIVITY-BASED TEXTBOOK ON THE ACHIEVEMENT OF THE LEARNERS OF CLASS VI IN SCIENCE

Debendra Kumar Misra and Bayamanu Charchi

ABSTRACT

The study deals with the effects of activity-based textbooks on the achievement level of the learner of Class VI in Science. The experiments were based on the selected concepts of science. The entry level behaviour of the learners were assessed through a Pre-test. The question items were prepared by the researcher. Then simple experiments were demonstrated by the Researcher devoting six periods of 45 minutes duration each. After the interventions the learners were administered post-test.

Activity-oriented approach is the latest technique found to be suitable for classroom teaching. Activities involved both the teachers and learners. There is scope for cognitive exercise through pair work and group work where teacher is only a guide. The four basic elements of the activity were kept in view:

i) There should be a focus in the activity which is known as objective.
ii) There should be scope for competition where the child can take up the learning task with a challenge.
iii) The child must derive pleasure at the time of performing the learning task.
iv) The involvement of the learner is spontaneous.

In teaching Science, there is more scope for conduct of activities in comparison to other subject areas. In order to make the classroom teaching lively, receptive and objective oriented the investigator took up the study after analyzing the contents of the chapter of the text.

1.0 OBJECTIVES

The following were the specific objectives of the study:

- to select learning competencies from the textbook based on activity.
- to transact the competencies using appropriate activities given in the text.
- to assess the improvement of learners at the end of the experiment.

2.0 METHOD AND PROCEDURE

Experimented method was used in the conduct of study. The investigator selected 20 students of Class VI who were found to be very poor in achieving the following concepts in Science:

- Transparent, opaque and translucent objects.
- What exactly are shadows?

The entry behaviour of 20 selected learners was assessed using a pre-test. Then they were exposed to the activity-oriented techniques for a period of one week. After one week, performance of the learners was tested and the improvement in performance level was assessed through mean difference in the level of performance between the pre-test and the post-test test.

The following methods were used for developing the competencies:

i) Demonstration Method

- To help the learners to acquire practical knowledge, observation, examining and generalizing.
- To discuss the problems step-wise for attainment of competencies.

ii) Task Assignment Method

- Each individual learner was acquainted with the task to be performed.
- The investigator went round the group and supervised the pace of task performing.
- Then he extended support to the slow learners to accomplish the task.
- He asked the individual learners to answer the question, present the same in the group. The group leader corrected the assignment and final report was read out by him.

Topic: Light, Shadow and Reflecting

Competencies:

The learners will be able to identify the transparent, opaque and translucent objects. They can differentiate between the transparent, opaque and translucent objects to define the term 'Shadow'.

Activities conducted for development of the competencies:

Activity – I:

Step – I : Collection of Objects like Eraser, Plastic, Scale, Pen, Pencil, Notebook, Single sheet of Paper, Tracing Paper, Piece of cloth.

Step – II : The investigator called the student from each group to use the object to look - objects which are at a measurable distance. Then asked them to record their observation using the following worksheet giving tick against the item.

Sl. No.	Name of the Materials	Whether Clearly Visible	Partly Visible	Not at all Visible
The objects used to look at the distinct object				
1.	Plastic Scale	-	-	-
2.	Eraser	-	-	-
3.	Pencil	-	-	-
4.	Notebook	-	-	-
5.	Single Sheet of Paper	-	-	-
6.	Tracing Paper	-	-	-

Inference: The materials like eraser, pencil, notebook, single sheet of paper are opaque.

After giving a glass to each group they were asked to tell, whether the things at a close distance are seen.

	Yes	No
Student No. 1	-	-
Student No. 2	-	-
Student No. 3	-	-
Student No. 4	-	-
Student No. 5	-	-

Inference : Glass is opaque.

Competency: The Learner can tell what Shadow is?

Activity – 1: It was a pair work. The learners were instructed to be in pairs. One held an opaque object in his hand slightly above the ground.

Student No. 1: Asks to his friend – What do you see on the ground?

Student No.2: A dark patch is formed on the ground (to all the pairs of student). Can you tell me the reason why is the dark patch formed?

Students' reply, Sir, it is due to the shadow.

Generalization : An object can be identified by looking at its shadow.

Activity – 2:

Step – 1: The students were asked to spread a sheet of paper on the ground.
Step – 2: They were instructed to hold a familiar opaque object at some height.

Teacher: Is the shadow formed on the ground?
Student: Yes

Teacher's instruction to all the groups: Ask your partner to draw the outline of the shadow while you are doing the work. Draw outlines of the shadows seven other objects in the same manner. After drawing outline take away the objects. Ask other friends to identify the objects basing on the outlines.

The students did the work and reported to the teacher. Verification of the answer sheet.

Students	**Whether Correctly Identified**
01	Yes
02	Yes
03	No
04	Yes
05	No

Activity – 3: **A Simple Experiment by the Students on their Homes**

Instructions by the Teacher:

1. Go out in an open ground with few friends.
2. List of materials to be brought
   - A Torch
   - A large sheet of card board
3. Hold the torch close to the ground and shine upwards so that its light falls on the face of the partner

What happens – Light falls on an opaque object.

The teacher asks a question: If there were no trees, building or any other object behind your friend, would you see the shadow of your friend's head?

Classification was made by the teacher for conceptual clarity.

Teacher: Ask another friend to hold the cardboard sheet behind your friend when the task is performed. Teacher puts the question : Is the shadow not seen on the cardboard ?

Teachers Clarification: The shadow can be seen only on screen.

After the teaching learning process was over, the researcher conducted a post-test and compared the result of the pre-test with the post-test.

Tests	Mean Score	Remarks
Pre-Test	10.5	-
Post-Test	18.5	
Difference in the mean	08.0	There is gain in the mean

The above table shows that there is improvement in the standard of the learners at the post-test. It is due to the effect of the activity-based approach on the teaching learning process.

3.0 FINDINGS

i) The Science textbooks of Class VI are befitting for the learners.

ii) There is substantial gain in the post-test due to the clarity of the text pertaining to activity.

iii) The students were involved actively on the teaching-learning process.

iv) They were interested to conduct experiments by themselves using the textbooks as a model.

v) Concepts could be clarified easily through simple experiments as reflected in the textbooks.

vi) Students were benefited through pair work and group work while conducting the experiments.

vii) The feeling of cooperation was marked in the students through collective work.

4.0 SUGGESTIONS

The teacher must conduct these type of simple experiments with the active participation of the students to make the concepts clear. Materials should be collected from their own surrounding for the conduct of experiments. Activities given in the text should be splitted into small steps for easy grasping of the learners.

5.0 REFERENCES

- Textbook for Class VI published by the NCERT, New Delhi.
- DPEP Calling (2000 and 2001) Issues – Published by Ed.CIL, Ministry of Human Resource Development, New Delhi.
- Oriya version of the selected contents of the text translated by a Science Expert.

INNOVATIVE ACTIVITIES IN TEACHING SYMBOLS

P. Srinivasan

1.0 INTRODUCTION

> ***"Education is to bring the best in Mind, Body and Spirit".***
>
> \- Mahatma Gandhi

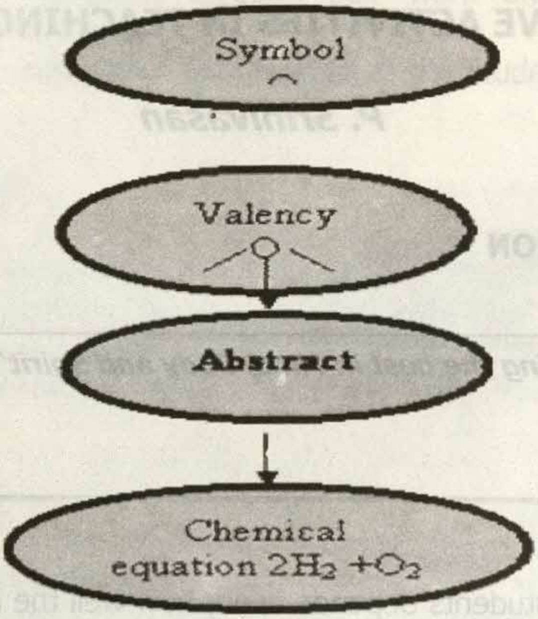
The achievement of students depends upon, how well the instruction is delivered that is 'teaching'. Teaching is an art as well as science. It should bring about a permanent change in the behaviour of learners. This behavioral change may be brought by a number of methods. The choice of the method is such that it should bring about a worthwhile change in the behaviour otherwise the teaching will be ineffective. The researcher felt dissatisfaction in teaching symbols to VII standard students of State Board of Tamil Nadu through lecture method because of low achievement level of the students.

The students were unable to write correctly even simple chemical equations like that of hydrogen reacts with oxygen to produce water. The cause for this lies in not knowing properly symbols of various elements and its corresponding valency.

If these two are understand clearly by the students then they might write chemical equation in its correct form.

1.1 Significance of the Study

Symbols are basics for learning chemistry. It is imperative for the middle school students to master the symbols and valency of all the elements prescribed in their syllabus. This mastery will enable them to learn about molecular formula which in turn helps in writing chemical equation. This progressive learning may be given in the following a schematic diagram:



In order to make the learning of symbols effective with joyful participation, 10 playway activities in symbols were innovated and implemented.

2.0 OBJECTIVE

To study the effect of selected activities (in symbols) on mean achievement of VII standard students

3.0 HYPOTHESIS

There would be significant difference in the mean achievement of the students before and after the activities on symbols.

4.0 SAMPLE

The sample for the study comprised of 60 students (29 boys & 31 Girls) of Panchayat Union Middle School Thimmachur, and 50 students (26 boys & 24 girls) of Roman Catholic St. Joseph's Middle school, Memalur.

Both schools are situated in to Tirukoilur block of Villupuram District, Tamil Nadu.

5.0 TOOLS

1. Ten play way activities on symbol
2. An achievement test comprising of ten question items 10 questions as a tool for pre-testing and for post testing.

6.0 PROCEDURE

Step 1:

A sample of 110 students was divided into four groups as under:
Group I($n_1 = 30$) and group II($n_2 = 30$) of Panchayat Union Middle School, Thimmachur, Tirukoilur Block, Villupuram District.

Group III ($n_3 = 25$) and group IV ($n_4 = 25$) of Roman Catholic St. Joseph's Middle School, Memalur, Tirukoilur Block, Villupuram District.

Each group was further divided into sub- groups. It was done for sub-group wise competition within a group. Group I and group II had five sub groups of six students each. Group III and group IV comprised of five sub-groups of five students each.

Step 2:

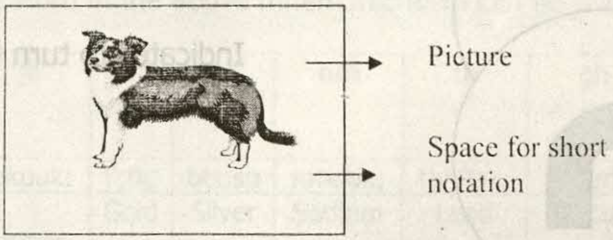
One group was taken at a time. For example, Pre-test on symbols was administered to group I. This was followed by providing play way, easily learnable, participatory activities on symbols. Ten such activities were planned. In 30 minutes time, two activities were provided. To cover all the activities numbering ten, 150 minutes were required. Finally post test was administered.

7.0 SYMBOLS

Symbols are shorter notation for the elements. Each symbol is specific for that element. The Activities for teaching symbols are as follows:

(i) Call your Pets

Animals like Cow, Goat and Lion which are individually in pictures, were cut and pasted on a card board. Five such animals are given to each sub group and they were asked to write the animal names in shorter notation. The sub group which came first with correct answers was rewarded with prizes.



Ans: Name: Dog **Short form: D**

(ii) Call Thy Name

This activity is similar to first one, instead of animal pictures, they are provided with names of students in that same sub-group. The sub-group which came first was rewarded.

Example

Pratheep ---- P
Veeramani ---- V
Jagadeesan ---- J

(iii) Conjure with Alphabets

Names which start with similar alphabet are given to sub-groups. The students in the sub-groups were asked to come up with shorter notations or symbols. Since the first letter is similar, they had to go for the second letter to give symbol in order to differentiate. Again the first comers were rewarded.

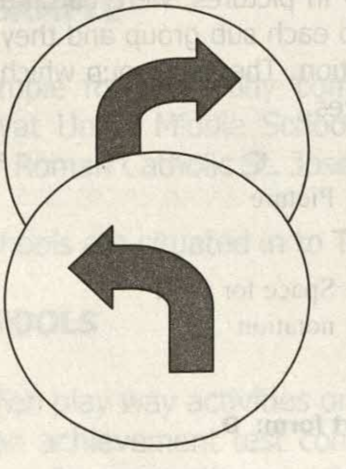
Example

Pratheep ---- Pr
Prakash ---- Pk
Peter ---- Pe

(iv) Traffic Rule Game

Students were asked to mention about short notation or symbols (on the sign boards) which they came across while they were coming from home to school. Many came up with good number of correct answers.

For example



Indicates to turn right

Indicates to turn left

Like the above diagrams, students said a number of symbols. The meaning of the symbols was demonstrated by the sub –groups.

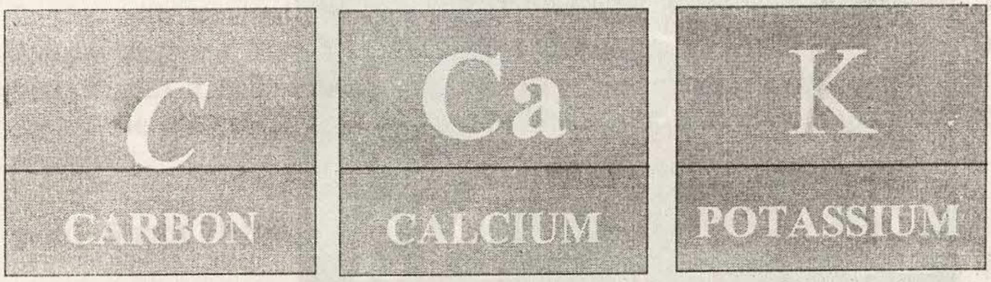
By all the above activities, students acquire the capability of giving shorter notation (symbolic form) of objects, concepts etc.

(v) Stitching Game

Student were taught to stitch the symbol of a given element in the thermocole. In this activity itself, they were guided to understand different types of symbols, that is,

Elements whose symbols are one lettered
Elements whose symbols are two lettered
Elements whose symbols are from Latin roots

For example



For Latin rooted elements Copper, Gold, Silver, Mercury, Iron, Lead and Sodium, the researcher had developed a mnemonic form in Tamil language for easy memorisation.

jhj;jhnt nrhW fhyp ghy; ,Uf;F

Specific letters in each word in the above mnemonic form can be put as:

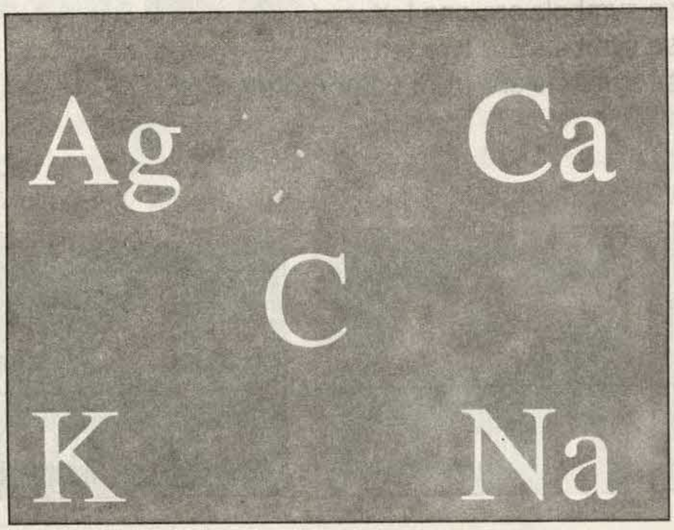
Mnemonic	jh	j	bt	nrh	fh	gh	,
Representation	jhkpuk; Copper	j';fk; Gold	bts;sp Silver	nrhoak; Sodium	fhhPak; Lead	ghjurk; Mercury	,Uk;g[Iron

(vi) Separate Me

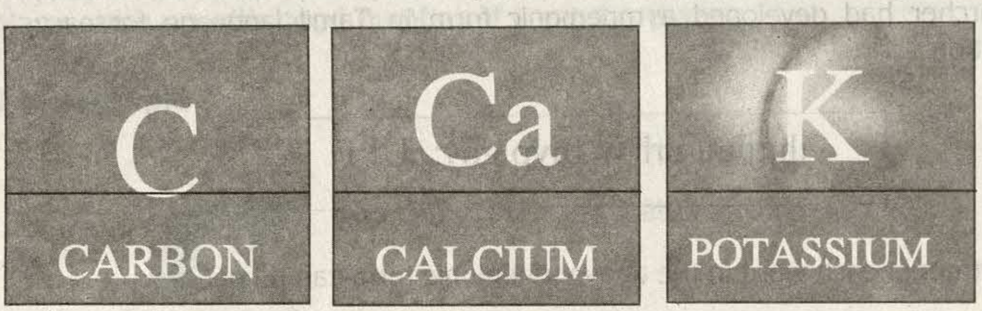
Groups were provided with few symbols in thermocole form and they were asked to classify them into

One lettered
Two lettered and
Latin rooted symbols.

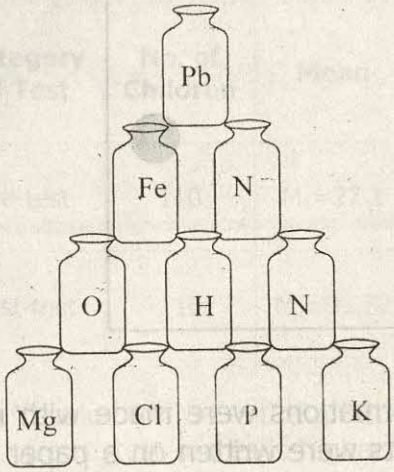
The sub-group which is coming first was rewarded.



Mixed Symbols

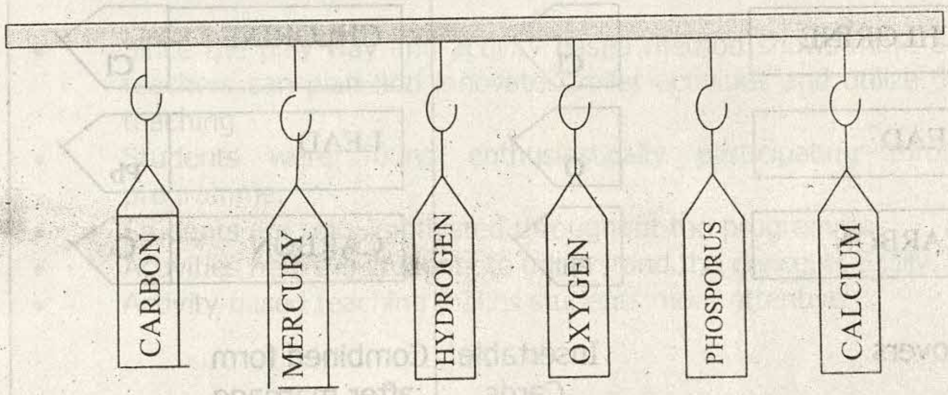


(vii) Collect As Much 'U' Want



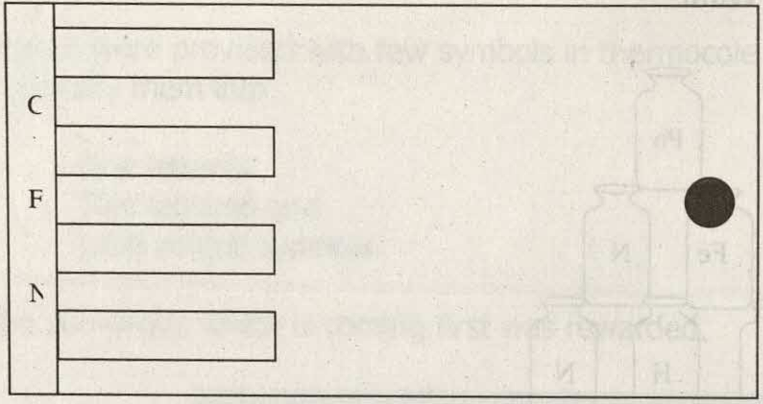
Bottles with stitched element symbol are kept as above. These were kept at certain distance from the participant. Sub-groups were asked to smash the bottles with a ball. Those who are smashing more number of balls and also saying the correct name of element of the symbols in the grounded bottles were rewarded.

(viii) Shoot Them



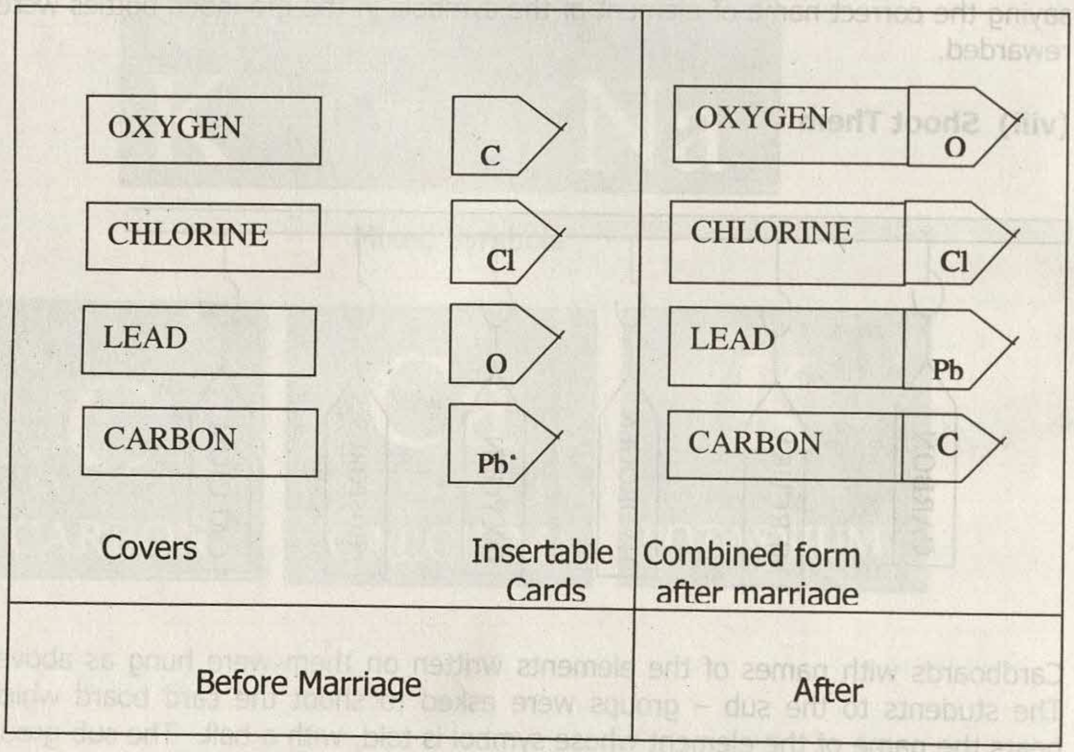
Cardboards with names of the elements written on them were hung as above. The students to the sub – groups were asked to shoot the card board which bears the name of the element whose symbol is told, with a ball. The sub-group which does correctly and more in numbers was rewarded.

(ix) Canal Game



On a wooden board canal like formations were made with reaper given in the diagram. The symbols of elements were written on a paper and pasted one on each canal. The students in sub-group were asked to pass the ball in the canal whose symbol was read. The successful sub-group was rewarded.

(x) Marry me



Elements name were written in charts in the cover form. The respective symbols were written in a chart which could be inserted in the cover. Sub groups were asked to match the symbols with the name of the element. The sub group which matches more were rewarded.

8.0 DATA ANALYSIS

Table I - Tabular column for N, M, σ & t

Sl.No.	Category of Test	No. of Children	Mean	SD	t
1	Pre-test	110	$M_1=27.1$	$\sigma_1=19.5$	26.53 (at 0.01 level of Significance)
2	Post-test	110	$M_2=91.32$	$\sigma_2=16.2$	

Table 1 shows the 't' value for the entire group. It is clear from the Table 1 that the mean (91.32) of post test scores is higher than the mean (27.1) of the pre test scores of the students. The 't' value is 26.53, which is higher than the table value of 2.58 at 0.01 level of significance. It indicates that there is a significant difference between pre and post test scores of the students. Hence, the null hypothesis was rejected and it was concluded that the mean of the post-test scores was significantly higher than the pre test scores.

Hence, it was inferred that the activities followed have been highly effective in teaching symbols.

9.0 ADVANTAGES OF THIS PROGRRAMME

- Since the play way and activity based method shows more achievement, teachers can plan and innovate similar activities and utilize them in their teaching
- Students were found enthusiastically participating throughout the programme.
- Students are self - motivated throughout the programme
- Activities help the students to understand the concepts easily
- Activity based teaching makes students more attentive

INTEGRATED LEARNING IMPROVEMENT PROGRAMME (ILIP) - AN INNOVATIVE INITIATIVE IN WEST BENGAL

Syed Nurus Salam, Subhajit Mandal and Aniruddha Sarkar

1.0 INTRODUCTION

National Policy of Education (1986, Revised in 1992) laid emphasis on providing universal Elementary Education of comparable quality to all children in the age group of 6-14 years without any discrimination on the lines of caste, creed, location and sex. In pursuance of the policy, essential levels of learning to be attained by all children were identified in Language, Mathematics and Environmental Studies and non-cognitive areas of learning in the form of competencies in 1991. These were popularly known as the Minimum Levels of Learning (MLL). It provided impetus to Competency, based Teaching Learning (CBTL) so as to turn into a nationwide movement.

The National level programme such as District Primary Education Programme (DPEP) further facilitated implementation of Competency Based Teaching-Learning Materials (TLMs). Training modules evaluation materials, etc. were developed by most of the States and were used extensively among children of various classes. The classroom environment witnessed change through the use of competency-based TLMs and classroom processes incorporating joyful activities. Both teachers and students were supposed to participate actively in the teaching learning process. Competency-based Teaching Learning (CBTL) imbibed the concepts like mastery learning, individual alteration, diagnostic and remedial teaching, peer-group learning, self-learning, continuous and comprehensive evaluation, grading system instead of marks, etc. It is therefore, a matter of interest to see if introduction of CBTL helped in improving achievement levels of children. A number of research studies conducted in some states indicated positive outcomes in respect of the introduction of CBTL.

India has witnessed a huge expansion in demand for Education For All at all levels. More importantly, peoples' aspirations regarding education have also changed enormously. At one level, it seems India is poised for a take off. Though, many characteristics of the system remain unchanged - children continue to dropout, teaching learning quality is abysmal because of traditional classroom practices and curriculum.

It is in this context that the entry of new players in the elementary education sector comes as a whiff of fresh air. The Government of India and some State Governments, today, recognize the merit of harnessing more support for quality improvement through public-private partnerships (Vimala Ramachandran).

Several efforts to improve the quality of teaching learning in Indian schools have been made in last few years.

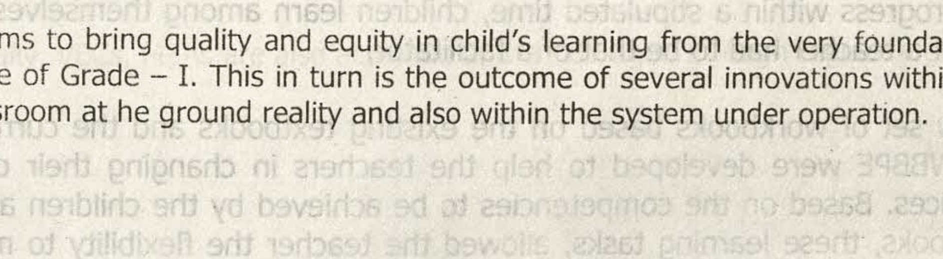
Many of these efforts have been initiated, or at least, supported outside the system.The Integrated Learning Improvement Programme (ILIP) has been initiated by the Government of West Bengal within its existing system. Looking at universalisation of primary education and aiming to improve access, enrolment and retention in the primary education system, ILIP was started in 2002. It succeeded the Successful School Learning Improvement Programme (SLIP), which continued during the academic year 2001-2002.

Competency Based Teaching Learning (CBTL) is a revolutionary change over the existing traditional education system. When the West Bengal Board of Primary Education (WBBPE) started its activities in 1990, it also accepted this one of the goals of achievement of universalisation of primary education in West Bengal. Continuous and Comprehensive Evaluation (CCE) is the outcome of CBTL, or rather CBTL is the main basis of experimenting on CCE.

In the first year, the programme was implemented in standard (I) to ensure that through improved learning practices and teaching materials all children achieve the designed competencies and no child lags behind. Also, in the initial stage the schools covered were the ones, which had the basic infrastructure of four rooms and four teachers. The programme was extended in the next year to other schools and in the existing schools where the teachers had been trained for classes II upwards.

2.0 KEY FEATURES OF ILIP

The ILIP is running as established dynamic reversible system of equilibrium as follows:



It aims to bring quality and equity in child's learning from the very foundational stage of Grade – I. This in turn is the outcome of several innovations within the classroom at he ground reality and also within the system under operation.

2.1 Uniqueness of the Programme

- **Changes in classroom were brought through culture of:**
  - Creation of joyful learning situation
  - Graded competency based learning task
  - Group learning and peer learning
  - Self-learning and self assessment of children
  - Child centric learning task
  - Judicious time and task management
  - Inculcation of socio centric ideas

- **Learning of 'Mastery of Competencies' ensured through**
  - Systematically designed and graded workbooks
  - Continuous assessment of child's Competency through continuous comprehensive evaluation

- **Use of workbooks and TLMs**
  - Supplementary and supportive to the textbooks
  - Designed for grade and subject basis
  - Developed on the basis of curriculum and syllabus of WBBPE.
  - Each competency has been divided into sub-competencies in the workbooks with the provision of reducing the learning gaps.
  - Inbuilt innovation and improvisation by both the teachers and students

2.2 Programme Strategy

The ILIP programme aims to bring quality and equity in child's learning from the foundational stage of class-I. This is the outcome of several innovations within the classroom and also within the system under operation.

The core strategy for this programme is empowerment and capacity building of the teachers to move away from the monologue style of imparting education prevalent in most government schools and make them realize that all children can progress within a stipulated time, children learn among themselves and the role of a teacher had to be that of a facilitator.

A few set of workbooks based on the existing textbooks and the curriculum of the WBBPE were developed to help the teachers in changing their classroom practices. Based on the competencies to be achieved by the children as per the textbooks, these learning tasks, allowed the teacher the flexibility to match the current learning level and learning speed of the child. The final objectives of the worksheets were also used to develop a working approach of proper time management in the child and the teacher.

Another change at the classroom level introduced through ILIP was the engagement of Voluntary Resource Person (VRP) from the local community to help the teacher and attend to the children who required extra support.

The project also envisaged an increased awareness in the community so it would make a greater demand for quality education. Another strategy of the programme is the maintenance of a systematic and continuous profile of each child. Both the behavioral and academic achievements of the child are noted in the profile which helps the teachers at the time of planning of remedial attention.

2.3 Functional Mechanism

A reversible, decentralized support system is functioning under the aegis of SSA, West Bengal to make this micro level intervention successful.

At the State Project Office, apart from state level officials and educational experts, State Research Fellows are working exclusively for the programme.

At the district Project Office, apart from district officials, District Research Fellows (at least 2 for each district) are exclusives for the programme. In addition, District Quality

Management Team (DQMT), comprising of 12 members have been engaged. Each of the above members is involved to provide need based academic support at CLRCs and CRC level. Apart from Sub Inspector of schools (SIs), Resource Teachers (RTs) have also been trained in the light of ILIP.

At the school level, in order to combat higher PTR and improve community linkage, Voluntary Resource Person (VRP) has been engaged. The following functions are generally performed by the VRP:

- Facilitates teacher in engaging the students meaningfully in learning task
- Helps to reduce absenteeism
- Identity and attend slow learners
- Interacts with community

Finally, VECs, MTAs are also activated and encouraged through regular meetings.

2.4 Evaluation system

To assess the progress of the teaching-learning, evaluation system has been designed to make it continuous and comprehensive. In addition to academic achievement, behavioral achievement is also evaluated through this system. Spontaneity, disciplined activity, cooperative gestures, responsive attitude, responsive working habits etc. are such measurable parameters.

2.5 Outcomes

As outcome, the programme shifts from fearful classroom environment to joyful learning situation

- It shifts from " imposed discipline" through punishment to "spontaneous discipline" of affection and respect
- It shifts from system of ignoring accountability among stakeholders and beneficiaries to sharing responsibilities by community and teachers
- It shifts from routinised stereo-type supply driven, centrally planned, adhoc quality improvement intervention to need based, demand driven, target oriented, dynamic decentralized, accountable to stakeholders approach.

3.0 FINDINGS OF DIFFERENT COMPARATIVE STUDIES BETWEEN ILIP AND NON-ILIP SCHOOLS

1. **State Project Office, PBSSM** carried out a study in six districts covering 100 schools and 6000 children, studying in grade-II to know the academic achievement of the children studying in ILIP and Non ILIP schools. The main results are presented below:

Table – 1.1: Percentage Achievement in Language, Mathematics and EVS of ILIP and Non-ILIP schools

Type of school	Language	Mathematics	EVS
ILIP	89.52%	90.48%	91.43%
Non ILIP	58.15%	54.58%	59.24%

Table- 1.2

Type of school	Language	Mathematics	EVS
ILIP	14.77	52.11	36.98
Non ILIP	12.55	19.11	7.14

Table – 1.3

Type of school	% of students obtaining 'B' grade in		
	Language	Mathematics	EVS
ILIP	26.7	18.42	32.99
Non ILIP	18.28	21.35	3.35

Table – 1.4

Type of school	% of students obtaining 'B' grade in		
	Language	Math.	EVS
ILIP	28.4	9.51	9.89
Non ILIP	50.23	37.62	21.42

2. **The Institute of Development Studies Kolkata (IDSK)** was set up as an autonomous institution in 2002 under the sponsorship of Govt of West Bengal to function as a center of excellence in social sciences.

This institute conducted a study in five districts where DPEP was implemented. The study was titled as: "An Assessment of In-Service Teacher's Training Programme in five Districts of West Bengal". Some of the main findings of the study are:

- The ILIP schools on average have performed better in achievement tests in all the subjects and in all the districts. The average score in ILIP schools is 18.6 percent higher than the average for non-ILIP schools.
- Though the dependence on private tutor is widespread in West Bengal, the students studying in ILIP schools are less dependent on private tutors.

3. **Review of ILIP Programme by Shaktibnata Sen and Shruti Nag, on behalf of Department of Elementary Education, MHRD, GOI and International Labour organisation ILO), New Delhi**

The review reported that when thinking about quality in an education programme, it is helpful to view both learning outcomes and learning process as distinct domains. Learning outcomes are comparatively easy to measure. The test charts of each competency to be developed places the child according to her/his level. They are quite visible in ILIP classrooms. The findings clearly show that children have come up to expected competency levels in schools that have implemented the ILIP effectively. ILIP needs to think, along with its replication plans, ways to transmit the very philosophy it is based upon. Merely replicating few steps will not help it to achieve the level of quality it had envisaged for itself."

In conclusion, at the threshold stage in attaining UEE, Paschim Banga Sarva Shiksha Mission (PBSSM) faces the following major challenges:

i) The challenge of improving quality of education and its sustenance as measured through enhanced learning outcomes of students with an approach to social and gender equity.
ii) The challenge of admitting never enrolled students, difficult to reach children, in the fold of elementary education
iii) The challenge of dropouts

--- All these challenges need to be addressed through well planned, systematic and phase wise interventions, which can be operationalized under the aegis of the SSA throughout the state covering all govt' primary schools. From 2006-07 academic session the essence of ILIP has been extended to all govt' primary schools in West Bengal with a new title ***"Samanwita Sikhan Unnayane Uttaran".***

ENSURING QUALITY EDUCATION THROUGH COMPETENCY BASED TEACHING - LEARNING AND EVALUATION AT ELEMENTARY LEVEL

Vijay P. Singh

1.0 INTRODUCTION

As indicated in the 'SSA Framework for Implementation' the quality issues in elementary education will revolve around the quality of infrastructure and support services, opportunity time, teacher characteristics and teacher motivation, pre-service and in-service education of teachers, curriculum and teaching-learning materials, classroom processes, pupil evaluation, monitoring, supervision etc.

No doubt that providing a quality infrastructure is the preferred interventions allowing 33% of budget expenditure on Civil Work under SSA interventions. However, it only ensures access and enrolment of the target population of the children of the age 6-14 years. The other two goals of UEE, the universal retention, and universal achievement can only be achieved by making serious and sustained efforts for improvement of quality of education.

The NCF 2005 advocates that education needs to be provided in a child friendly environment by adopting a constructivist's approach. In this approach, the teacher has to play the role of a facilitator and guide to enable the child to construct knowledge from his own exposure and interaction with the environment. All out efforts are to be made to help the child to develop a well defined set of competencies or skills through a teaching-learning process organized at a level or grade of schooling. There is also a need to interlink the levels of learning across the grades / levels of schooling.

The competencies are the skills to be seen as learning outcomes of a teaching-learning process. Thus an educational programme is always aimed at the development of certain competencies/ skills among the learners. The objectives of a topic/subject reflect upon the possible and desired learning outcomes of an educational process planned to be achieved through the delivery of the appropriate content by adopting suitable teaching method(s)/ technique(s)/ approaches.

The competency based approach in education particularly at elementary level is essentially required in bringing a qualitative and objectively measurable improvement in the performance of learners. This approach has several advantages such as; interlinking of content across grades, learning continuum, ensures achievability, based on sequential and mastery learning, continuous and comprehensive evaluation, reporting weaknesses and strengths of learners in an objective manner and provides objective information for remedial teaching/ treatment of the slow learners.

This paper makes an effort to present the various dimensions of the competency based approach to see its fruits in form of the universal achievement, retention in the school and progression of the children from one level to the other.

2.0 THE MINIMUM LEVELS OF LEARNING (MLLS) AND LEARNING COMPETENCIES

The setting of Minimum Levels of Learning (MLLs) at primary stage (NCERT, 1991) and advocating for a competency based approach in education was a meticulous exercise aiming at the quality education in a scientific way. The equity and reduction of existing disparities was the major focus of the policy formulation behind the MLL exercise. Introduction of the concept of MLLs was an effort to combine quality with equity, keeping in view the developmental needs of children particularly coming from the disadvantaged and deprived sections of the society, the dropouts, working children, and girls. The committee constituted by the MHRD for the job had recommended that the MLLs be stated in terms of terminal learning competencies or skills rather than stating the learning objectives such as knowledge, comprehension, application, analysis, synthesis, evaluation and so on. These learning competencies are expected to be mastered by every child by the end of a particular class or stage.

Following were the two basic considerations kept in view while formulating the MLLs:

i) the cognitive capabilities of the children in different stage of development; and

ii) The empirical reality in terms of enabling environmental conditions that characterize the primary education programmes.

The MLLs and the Quality Issue

In order to address the quality issue through MLLs the following specifications were taken into account:

i) By lying down of well-defined levels of learning a greater sense of direction and element of accountability can be introduced in the system.

ii) The teachers, pupils, the parents and educational planners can know where they are and where they ought to be.

iii) The objective of MLLs approach that *all children must achieve* at a given stage of education, has been seen as one of the important prerequisites for infusing a sense of direction to the system and thereby paving the way for improving its accountability.

iv) MLL will provide an effective tool for programme formulation for school improvement and quality education.

v) The quality of a school or educational system should be defined in terms of the performance capabilities of its students.

3.0 THE CURRICULUM IN A COMPETENCY BASED APPROACH

The quality in education includes a concern for peace, protection of the environment and a predisposition towards social change must be viewed as core components of quality, not merely as value premises. The representation of knowledge in text books and other materials needs to be viewed from the larger perspective of the challenges facing humanity and the nation today (NCF 2005).

The quality of education and that of an educational programme can not be assured without an intense and strategic planning of all the four basic components of curriculum, viz. *objectives, subject matter or content, methods and approaches of its transaction, and evaluation as* these components are very closely interrelated and hence affect each other in an educational process.. (Kerr, 1971, p.178-185).

In a competency based approach, a critical analysis of the curriculum of a school subject is the first foremost step so that topics or content may be organized in a sequential and well tailored manner. The overload of content, of facts and information is to be replaced by the content and activities relevant to the life situation or based on the knowledge of the environment of the child. In other words the MLL exercise was viewed as part of a larger curriculum reform endeavour attempting to move towards greater relevance and functionality in primary education. A competency based curriculum for children with special needs and non-cognitive areas also needs to be developed.

The implications of this exercise as pointed out in the document (MLLs at primary stage, NCERT, 1991) are:
The

- Lightening the curriculum of its textual load and also the burden of memorizing unnecessary and irrelevant facts;
- Leaving room for the teacher to relate textbook information and objective reality into a meaningful process of understanding and application;
- Ensuring the acquisition of basic competencies and skills to such a level where they are sustainable, and would not easily allow for relapse into illiteracy;
- Permitting mastery learning not only by the brighter students in the class but also by almost all children including the first generation learners.

The competencies as decided by the committee on MLLs at primary stage are as given below. All these competencies and sub-competencies are to be given a numerical code such as 1.4.1 the first digit indicates the major competency number, the second digit indicates the class and the third indicates the sub-competency number under a particular major competency. The curriculum and text material should reflect all these competencies and sub-competencies so that students, teachers, parents and educational administrators are very well familiar with these code numbers and the topic represented by these codes.

The Competencies in Language at Primary Level

The following are the competencies to be developed through teaching–learning of Language at primary stage. The pupil will be able

i) to listen with understanding;
ii) to speak effectively in both informal and formal transactions;
iii) to read with comprehension and enjoy reading various kinds of instructional materials;
iv) to write neatly, with logical sequences and creativity;
v) to comprehend ideas through listening and reading;
vi) to use grammar functionally in various contexts;

All these competencies are very well linked together as an interlinking of first 4 basic competencies (listening, speaking, reading and writing) is reflected in the competency 5 which attempts to specify the levels of comprehension of ideas by the pupil, in language through listening and reading.

The Competencies in Mathematics *at Primary Level*

The MLLs document has listed the following objectives of the Mathematics curriculum at the primary stage to be directed to develop in the pupils the ability to:

i) perform computations, with speed and accuracy
ii) translate verbal statements (a) in mathematical form using appropriate symbols, and (b) diagrammatically
iii) make reasonably good approximations and estimate measurements
iv) apply mathematical concepts and skills to solve simple problems of day-to-day life
v) think logically
vi) recognize order and pattern.

It further mentions about the following indicators of readiness of the child for Primary Mathematics:

i) Arrange objects in order according to size, length, thickness, weight and volume and use vocabulary describing the relationship, e.g. 'bigger than', 'smaller than', 'the same as', 'heavier', 'heaviest', etc.
ii) Classify groups of objects according to various properties, e.g. size, shape, length, etc.
iii) Compare positions of the things and persons in terms of the distance from a given point of reference and use vocabulary describing the relationships e.g. 'near', 'far', 'nearest', etc.
iv) Perceive and reproduce simple patterns relating to shape, colour, position and quantity.

The following five areas of mathematical competencies have been identified by the committee:

i) Understanding Whole Numbers and Numerals.
ii) Ability to Add, Subtract, Multiply and divide Whole Numbers.
iii) Ability to use and solve simple problems of daily life relating to Units of Money, Length, Weight, Capacity, Area and Time.
iv) Ability to use Fractions, Decimals and Percentage.
v) Understanding of Geometrical Shapes and Spatial Relationships

The Competencies in Environmental Studies (EVS) *at Primary Level*

Taking into consideration the fact that the total environment is the product of the interaction among the man, the natural environment and the social environment the following **ten major competencies** have been decided for the primary stage. The pupil

i) acquires awareness about one's well-being in the context of social and natural environment.
ii) explores important aspects of one's socio-civic environment and comprehends their working.
iii) knows about various people at work and appreciates the importance about the 'world of work'.
iv) understands and interprets the spatial and interactive relationship between man and his environment.
v) begins to see the relationship between men's past and present, and to hold the past in its proper perspective.
vi) senses common but simple and easily observable socio-economic situations and problems, analyses them and seeks possible solutions at his level of experience.
vii) understands the factors contributing to the preservation of good health.
viii) develops skill in gathering and classifying information about living things from one's environment, and drawing simple inferences.
ix) observes and examines some common characteristics of non-living things.

x) observes simple phenomenon on the earth and the sky and draws inferences.

The proposed curriculum plan tries to include all these three dynamic and mutually interactive elements of the environment. **The first** competency is concerned with one's well-being in the context of natural and social environment. **The next five** competencies deal with the social aspects such as socio-civic environment, the world of work, spatial relationship between man and his natural environment, man's past-present relationship, and some common problems concerning environmental interaction. **The last four** major competencies relate to selected components of natural environment pressing on the scientific aspects besides the personal and social ones, and include the elements of health, living things, non-living things, and the earth and the sky (MLLs at Primary Stage, NCERT, 1991).

4.0 TEACHING-LEARNING STRATEGIES IN A COMPETENCY BASED APPROACH

The availability of qualified and motivated teachers who perceive teaching as a career option applies to all sectors of schools as a necessary precondition for quality. No system of education can rise above the quality of its teachers, and the quality of teachers greatly depends on the means deployed for selection, procedures used for training, and the strategies adopted for ensuring accountability, as pointed out by the Chattopadhyaya Commission (1984).

'The quality dimension also needs to be examined from the point of view of the experiences designed for the child in terms of knowledge and skills. Assumptions about the nature of knowledge and the child's own nature shape the school ethos and the approaches used by those who prepare the syllabi and text-books, and by teachers as well (NCF 2005).'

In order to develop these major competencies grade by grade, they have been delineated into specific sub-competencies anchoring them with relevant content units, and have been presented as a flow chart in a sequential and interconnected manner. The horizontal relationship of different competencies within a grade and vertical articulation established across grades is to be kept in mind during the process of teaching as well as evaluation.

In the language the effort should be made to develop the competencies by organizing interesting and joyful activities such as debates, dialogue, question-answer, quiz competitions, poem recitation, drama or plays, songs, riddles, story telling and narration of events etc. The learners should be encouraged to read supplementary reading material such as story books and consult dictionaries in order to facilitate the improvement in the self-learning skills and knowledge of functional use of the language.

In Mathematics the children should be helped in their readiness for primary Mathematics before switched over to the key mathematical competencies. The concrete objects, geometrical shapes in the surroundings and mathematical equipments should be used in the effort of developing the competencies at the primary stage. The teacher should help the children in revising the concepts or competencies learnt earlier by the students before proceeding further as the content is presented in a sequential manner and each previous competency has a bearing on the next.

In the EVS the proposed competencies are such that all of these could be developed through demonstration of hand-on activities and facilitating the child' learning through observation and experimentation. The learners should be given ample opportunities to observe, explore, analyze, interpret and appreciate the natural and social environment individually and in groups. The child should be encouraged to be a curious and careful observer of the surroundings. The textbook and other aids should be treated as secondary source of information for the child, the primary source being his/her own experience of the environment around.

All the teachers should be oriented for adopting this approach through face-to face training and also through the resource material such as teachers' hand book on activities to be organized for the development competencies in a particular subject.

5.0 THE EVALUATION (TESTING, EXAMINATION AND REPORTING)

The purpose of an evaluation is two fold, educational and administrative. The educational purposes include the appraisal of teaching strategies, measuring extent and quality of learning and the suitability and appropriateness of curriculum. On the other hand the administrative purposes are the effectiveness of the educational system, addressing the societal needs and expectations, and satisfying the parents. The assessment of an interaction should help the teachers to see the effectiveness of their teaching strategies by way of measuring pupils' performance in terms of learning outcomes. The competency based evaluation serves the purpose very well.

The competency based approach is based on Criterion-Referenced Testing and it has been found more useful than the Norm-Referenced Testing as it reveals the extent to which the learning objectives are achieved by the learners. Glaser and Nitko (1971) developed some testing models whereby test scores could be directly interpretable in terms of specified standards of performance. Sadler

(1987) as quoted by Hawe (2002) has highlighted *three areas* which represent the interests of the Criterion-Referenced Test movement, as follows:

a) Detailed specifications of objectives and domains of knowledge;
b) Objective testing, using items of empirically determined power to assess specific achievements; and
c) A combination of measurement and numerical cut-offs for making grading decisions (Howe 2002, p.94 and Sadler 1987, p.192).

Further, Sadler (1987) also pointed out the distinction between a criterion and a standard:

'A criterion is a distinguishing property or characteristic by which the quality of anything can be judged. A standard is a definite level of excellence or attainment or a definite degree of any quality. Criteria can exist without standards but standards cannot exist without criteria' (Sadler 1987, p.194).

Other group of researchers (Griffin & Nix, 1991; Izard, 1991; Croft, 1994; Tuck, 1995) have found that the other related approaches such as; competency - based assessment and testing, grade - related criteria and standards-referenced assessment also share the underlying philosophy of criterion- referenced interpretation of student performance. This is in contrast to a norm- referenced approach, where performance is interpreted in terms of an individual's standing, in relation to a known group (norm).

Construction of Test Items for Assessment and Evaluation of Pupils' Performance

While constructing a test paper the Competency Number should be indicated against each test item. In case of more than one question to be set for testing the level of achievement of a competency/ objective, the Competency Number is to be mentioned against each test item. The test items should be framed to examine the development of all the domains of human learning i.e. cognitive, affective and psychomotor domains.

The following is a Format of a Competency Based Question Paper.

Competency Based Oral/Written Examination
EVS (SCIENCE)
Class V

Competency No.	Q./Test Item	M.M. = 20
7.4.1	1. Write names of two food items containing protein	[1]
7.4.1	2. Why balanced food is necessary for our body?	[2]

The assessment will be done competency wise and scores of an individual competency are to be added and entered under it, as shown below. The performance of the learners will be graded as Fail, Pass, Good, Very Good and Mastery (in place of Distinction). The following sheet will be printed on the cover page of a test paper. The continuous performance of the learners can be monitored, assessed and evaluated.

Individual Learners' Performance Sheet - Competency based (Can be printed on the cover page of the question paper)

Module	1	1	2	2	3	4	4	5	5	6	6	7	8	9	Total
Comp.No	7.4.1	7.4.2	7.4.3	8.4.1	8.4.2	8.4.3	8.4.4	9.4.1	9.4.2	9.4.3	10.4.1	10.4.2	10.4.3	10.4.4	
Q. No.	1,2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Marks	(2)	(1)	(1)	(2)	(2)	(1)	(1)	(2)	(1)	(2)	(1)	(2)	(2)	(2)	**20**
Marks Scored															

Further, the following type class wise result sheet can be used to keep record of achievement of all learners in different competencies in a test/subject.

Class-wise Score/Result Sheet - Competency based

Unit/Chapt.	1	1	2	2	3	4	4	5	5	6	6	7	8	9	Total
Comp.No	7.4.1	7.4.2	7.4.3	8.4.1	8.4.2	8.4.3	8.4.4	9.4.1	9.4.2	9.4.3	10.4.1	10.4.2	10.4.3	10.4.4	
Q. No.	1,2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Marks	(2)	(1)	(1)	(2)	(2)	(1)	(1)	(2)	(1)	(2)	(1)	(2)	(2)	(2)	**20**
M.Scored															
Names															
Kareem															
Ramesh															
Geeta															
Krishna															
Joseph															
Harjeet															

The number of question may vary but every question should carry a Competency Number so that achievement in that question can be recorded properly. The above sheets are suggestive and can be improved further. Similar sheets can be developed for all other subject areas after identifying the competencies to be developed at a particular level.

Reporting the Performance of the Learner

A good report card is that which provides detailed information about learners' continuous performance as clearly as possible. In a competency based approach a report card will indicate the weakness of the student by mentioning the competencies (numerical code only) which have not been attained well by him/her. For example, if a learner has not attained competency 7.4.1, 8.4.2 and 9.4.1 in EVS (Science), these codes will be indicated on the report card with a remark by the teacher that, 'the student is weak in the areas represented by the indicated competency numbers. This will help learners, teachers and parents in taking note of these weak areas or undeveloped competencies for further improvement in learning of the learners (Singh, 2002).

6.0 SOME BASIC FEATURES OF MLLS OR COMPETENCY BASED APPROACH

The following basic features of the competency based approach are highlighted in the document on MLLs at Primary Stage (NCERT, 1991).

1. Achievability

i) To serve as performance objectives and goals

ii) To ensure learning up to mastery level by every child in the class. In operational terms, 80 per cent or more of the children mastering at least 80 per cent of the prescribed learning levels should be the performance target for the teacher henceforth.

2. Communicability: It is equally important to set them in a language and form that are easily understandable to all the teachers, many of whom located in remote rural areas work in isolation without any outside help or guidance.

3. *Evaluability:* Results of such tests based on the MLLs should be such that the teacher can identify which specific learning outcomes or competencies have not been mastered by the learner, help the learners to relearn the clusters of competencies representing specific unit, as well as prepare correctives for remedial instruction quite precisely.

4. Learning Continuum: The endeavour has been to set MLLs in as simple and comprehensible manner as possible, specifying the competencies to be mastered under each learning unit From Class I through Class V. Learning has been seen as a 'continuum', in which the units are sequenced hierarchically so that the clusters of competencies in one unit build as directly as possible on the competencies in the preceding unit. It is firmly believed that if the children progress systematically through this continuum, mastering the concerned sets of competencies in each unit before they move on to the next, learning each subsequent unit will be more enjoyable and meaningful, and the achievement of MLLs will be facilitated.

7.0 CONCLUSION

The paper began with a detailed discussion on the concept of Minimum Levels of Learning (MLLs) and the competency based approach for qualitative improvement in the education particularly at the elementary level. The various dimensions of education such as curriculum, teaching-learning processes to be adopted and evaluation of learners' performance have been discussed at length. On the basis of the foregoing discussion it may be easily corroborated that the competency based approach is the best, scientific and objective approach for an effective and quality education. The various features and advantages of the approach advocate about its supremacy over the current system of evaluation which is blind to pinpoint the area of pupils 'weakness in a particular subject area or topic. It also augurs well for the systematic development of the competencies and enhancement of learning through a provision of systematic recording and assessing and evaluating learners' performance.

The specific characteristics of the approach such as learning continuum and provide basis for continuous and comprehensive evaluation to ensure the quality. The Competency Based Approach of Testing, Teaching, Learning and Evaluation (Competency BATTLE) will help the learners to learn for mastery level and to come out like a confident winner at the end of this battle (Singh 2002). The curriculum developers should identify the achievable competencies and list them sequentially. In order to cater for the brighter students, and for those who achieve the mastery level much earlier than others, the Additional Levels of Learning (ALL) should also be decided.

The competency based approach is both diagnostic as well as formative in nature. It is much more objective than any other approach and thus more suitable in bringing a sustainable improvement in the quality of elementary education which will definitely help in reducing the drop-out rate of children from schools.

8.0 REFERENCES

- Croft, C. (1994) Standards-Based Assessment: What do we know? What should we Know? paper presented at the *16th National Conference of the New Zealand Association for Research in Education,* Christchurch, December.

- Glaser, R. & Nitko, A. (1971) Measurement in Learning and Instruction, In: R. L. Thorndike (Ed.) *Educational Measurement,* 2nd ed.,Washington, DC, American Council on Education.

- Griffin, P. & Nix, P. (1991), *Educational Assessment and Reporting: A new approach*, London, Harcourt Brace Jovanovich.
- Hawe, Eleanor (2002), Assessment in Pre-service Teacher Education Programme: the rhetoric and practice of standards-based assessment, *Asia-Pacific Journal of Teacher Education,* Vol. 30, Number 1, pp. 93-105.
- Izard, J. (1991), *Assessment of Learning in the Classroom* , Geelong, Deakin University Press.
- Kerr, J. (1971), *The Problem of Curriculum Reform.* In Hooper, R. (ed.), The curriculum Context, Design and Development, Edinburgh: Oliver and Boyd/ Open University Press.
- NCERT, New Delhi (2005), National Curriculum Framework
- NCERT, New Delhi (1991), Minimum Levels of Learning at Primary Level
- Sadler, R. (1987), Specifying and promulgating achievement Standards, *Oxford Review of Education,* 13 pp. 191-209.
- Sarva Shiksha Abhiyan, (A programme for UEE) Framework for Implementation, MHRD, GOI
- Singh, V. P. (2002), Competency Based Assessment and Evaluation for Enhancing an Effective Learning, Teachers' Conference organized by Tlokweng Education Centre and MoE, Botswana.
- Tuck, B. (1995), *Issues of Objectivity in Assessment:* A plea for moderation, in: R. Peddie & B. Tuck (Eds.) Setting the Standards, Palmerston North, Dunmore.

COMPETENCY BASED TEACHING LEARNING QUALITY INITIATIVE UNDER SSA

Soma Sablok

1.0 INTRODUCTION

Today's society is the knowledge society which has the more comprehensive strategic approach towards the teaching learning process. Ritual participation in teaching learning process would not do in the society as the society uses knowledge holistically to enrich and empower the people. It enlightens the people towards an integrated view of life as a fusion of mind, body and spirit. This knowledge society and knowledge era has not descended upon us overnight. It is evolved over several centuries through the multidimensional quality of education. So, the whole hearted commitment is necessary to gain competency in teaching and competency in learning.

For this type of competency, generation of skills is must, as these skills inculcate the capacity for innovations and competitiveness. These skills are the major instruments. We as teachers need to equip ourselves with skills for teaching and the students need to equip themselves with for learning; because both the teacher and the taught have to be players in the emerging knowledge based world.

Here, it may be mentioned that the teaching and learning is a reciprocal process when the teacher is teaching in a class, he is also learning the skills, gaining the ideas from the behaviouristic environment in the class, in the presence of the students. So that the teachers are the suppliers as well as the receivers.

In the information age, a knowledge based society is in the developmental process. As education in the process of teaching and learning indispensable for acquiring knowledge, it is assuming the central role in all process of development. The goals of the competent teaching and competent learning are multiple and they constitute a paradigm. The curricular structure reflects the goal, the traditional structure of core and ancillary subjects are inadequate for these purposes. Lack of integration in the Indian curricular system hinders the competency of the teaching and the learning process. The curricular content, therefore, should be determined by needs of sustainable development. Courses may be built around the basic need of global and local employment, Academic need, ethical need, cultural need etc. may also not be ignored if we want to gain the competency in teaching and learning process.

Here it would be worthwhile to mention that the competency parameter alone is not enough. Commitment or willingness to perform and commitment or willingness to achieve is must. The base of performing or achieving is the confidence.

In nutshell, we can say that competency is based on both commitment and confidence. The areas of the commitment for the teachers are the learners, society, profession, excellence, basic human values etc.

Love for the learners, readiness to help them and concern for their all round development is the prime urgency. Inculcation of Basic Human Values in the learner is the role model aspect.

Competency in teaching is the performance area i.e. performance in the class room, that includes teaching and learning process; performance at school level from organization of Morning Assembly to school level Management; Performance in out of school activities include the field visits or study tours based on observation and the performances related to parental contact and community contact and cooperation.

There are some different competencies areas which are classified into following three categories:

1. Managerial Competencies.
2. Pedagogy Related Competencies.
3. Content Related Competencies.

The pedagogical competencies comprise of preparation and use of teaching-learning materials, interactive instructions, class room transaction, projects and student evaluation. These types of competencies should include general preparation of teachers for effective teaching and fruitful learning. The Pedagogical preparation should include general preparation of teachers for broadening their horizon so that they may be able to achieve the target by making the late adopters and laggards to learn. It may be possible by making teaching simple and not complicated. Positive reinforcement should be specific, immediate and achievable. Self motivation may be the motto of the powerful teaching which results in better performance and higher contribution in the field of teaching and learning.

For optimum utilization of the teaching period, a teacher should take sometime to plan, delegate work, read or work during interval and arrange small meetings with the students. It is only the teacher who can teach for improving memory and thinking of students and it is possible only then when the teacher himself/herself concentrate, organize and retain the thought.

For the improvement of thought, cognitive thinking is a motivating factor which is one of the important goals of Sarva Shiksha Abhiyan. For achieving this goal, in-service training is provided to the teachers for continuous improvement in their quality of work. Sarva Shiksha Abhiyan keeps in mind the two components of training, namely, (i) building up new skills; and ii) updating and upgrading existing skills. No doubt that evaluating the effectiveness of training is a complex task, but SSA manages to achieve the goal by organizing quality monitoring at different levels and by different means.

Inspite of spending a huge amount on teacher training, it will not be wrong if we say that the teacher training programme have some adequacies which are related to course content, design of the programmes, preparation of the teaching material, teaching methodology etc.

It is seen that the participants undergoing in-service teacher training are reluctant to discuss the problems of their own subjects because of the poor academic background. Moreover, these training programmes lack practical inputs, and because of too much emphasis on theoretical components participants feel disinterested in programmes.

In order to avoid the gaps in training and development programmes, training needs to be designed scientifically, evaluated properly and upgraded continuously. Teaching methodology must be formulated to fit the local conditions, needs and real life situations'. Moreover, exchange of views and interaction with the participants is essential. During training programme conductive/automatic and self evaluation should be encouraged. It will also be fruitful to encourage research in various inter disciplinary areas during teacher training programme.

After the training is imparted, followup becomes the next necessary and unavoidable step. During followup programmes, following ground rules which measure the competency in the classroom teaching must be kept in mind by the team:

- Punctuality of the teacher.
- Teacher's interest in the studies.
- Teacher's preparation for the teaching
- Clarity of aims both for the students and the teacher.
- Positive reinforcement.
- Appropriate teaching techniques.
- Effective introduction of the lesson.
- Appropriate content up to the level of the students.
- Freedom to the students for clarifying the doubts.
- Maintenance of sequence of presentation, questioning and answering.
- Dividing of contents into small units to make learning easy.

- Better learning of concepts and the principles.
- Active participation of students in learning.
- Effective communication by the teacher.
- Sustained interest of the students.
- Clarity of lesson plan.
- Confidence in the understanding of content.

All these rules for class room observation followed by the observers enhance and purify the quality of teaching learning process and disseminate the developmental efforts for the all round development of the learners.

Under SSA, quality in terms of cognitive, emotive, physical skills, abilities and value system is helpful in meeting the expectations of internal/external clients.

For in-service teacher training with reference to the Distance Education Programme, SSA Punjab is imparting the two courses to its 5000 teachers. First course is the "Certificate Course in Teaching of Primary School Mathematics" (CTPM) for primary school teachers and the second course is "Certificate Course in Teaching of English" for the secondary school teachers. Keeping in view the words of Henderiks (1992)- that quality can be defined as the intrinsic validity of the product of education with regard to the fulfilment of its academic mission, SSA Punjab is fulfilling its academic mission. These courses are followed by the effective project management which are quality based and suitable for flexible learning systems. In future, some more courses are required for the teachers dealing with different subjects.

Quality in elementary school education includes two indicators: concept of school effectiveness and the concept of accountability. To retain these indicators, therefore, SSA Punjab is trying its best to fulfill the hopes of its clients.

Competency based teaching learning is the dire need of present and to fulfill the need, SSA is to provide useful and relevant elementary education to all children in the age group 6-14 by 2010. There is also another goal to bridge social, regional and gender gaps, with the active participation of the community in the management of schools. Whole of this process is based upon the competency of the teacher who imparts the information/knowledge to the child as well as the competency of the child who gets/understands/learns what is being imparted to him. The aim of SSA is to allow children to learn about and master their natural environment in a manner that allows the fullest harnessing of their human potential spiritually as well as materially. So, SSA provides a wide convergent framework for implementation of elementary education to fulfill its aim to universalize it.

It is observed that the government is keen to usher the country into 21st century with the modern sophisticated and scientific devices to improve the standard of living and quality of life of our people. The base of the vast range of people is child, a student.

Let us take a case of a single student. There are several attributes that determine the quality of a student i.e. virtues of head and heart, discipline, respect for the elders, devotedness to work/studies, truthfulness, morality so on and so forth. Evidently there will be wide divergence of views on each of these attributes. Some say that the issue gets far more complicated and nearly impossible as we move on to defining quality of human beings that is shaped by education. But it is difficult to say ditto to this type of thinking as so many educationalists have defined education as drawing out of the best in the man.

Education without anchoring in human values is incomplete and is likely to create one-dimensional he or she. It is the most powerful means of modification of human behaviour and it is depicted by series of choices or preferences.

Now, the world has become the global village. Human being is standing on the single platform. Educational perspective, therefore, may not be considered with reference to Indianness or otherwise only. It must be considered with reference to the qualities of humanity as a whole. The quality in education has to take into consideration the individual goals in the larger perspective of social goals. Examination of the worthwhileness of the goals is necessary. Thus quality education is value based. These values are achieved and maintained by competency which must also be achieved. There are some principles for the achievement of total competency in the teaching-learning process such as:

- Create consistency of purpose for the improvement of the learning.
- Adopt new philosophy.
- Put every student in the class to work to understand the topic.
- Break down the barriers among the students in the class.
- Institute a vigorous and quality assurance programme of education and self improvement.
- Institute the quality of leadership and drive out fear from every teacher to work effectively for the benefit of the taught.
- Set up a quality team for the follow up programme.
- Set goals to bring about action.
- Introduce corrective action procedures.
- Recognize those teachers and students who have actively participated in some launched activity.
- Set up quality councils to sustain process.
- Create awareness for the need of proper learning and opportunity for the improvement in teaching and learning.
- Provide appropriate training.
- Plan and adopt a project.

These principles approach the development of the total human being-indeed, 'learning to be.'

Now let us continue the argument further. There are varieties among the students. Quality Education focuses on identifying the propensities of each individual and nurturing such propensities for holistic development of the individuals.

It may be mentioned that the plus point of SSA is the ABL Scheme, BALA Scheme, ECCE Scheme. These schemes will be fruitful only when the teachers are given such type of training to use these schemes in the best possible ways. First the teachers are made to understand that the quality in education can be depicted in terms of the product that is the students-of the system-the quality attributes of educated ness.

Mukhopadhyay is of the opinion that individuals can be placed in the taxonomy of concerts. This taxonomy is consisted of informed, cultured, emancipated and self-actualised form of education. Education is information in the form of organized knowledge. It is cultured i.e. to make a person cultured. According to Vinoba Bhave, there are three stages where a person seems to be cultured. These stages are Prakriti, Vikriti and Sanskriti. It makes a person self actualize i.e. Achieving the best potential already present in the person. It implies optimization of talent on holistic development.

Thus in the light of this type of taxonomy, we may conclude in the words of Holt (2000) that the quality in school education is characterized by continuous search for improvement through innovative approaches. These innovative approaches enhance the competency of the teacher as well as of the taught.

Although the objective of SSA has been to identify not what constitute a best practice at the theoretical level only, but to run those best practices/initiatives such as EGS/AIE, ECCE, ABL, BALA etc. already existing in the feasibility domain and have been practically proven. But even then SSA must come up with some more initiatives to be demonstrated in practical ways that actually work in nourishing in quality efforts which focus on instilling values among students towards education of the poor children, the challenge of spreading literacy to one and all, way to live a good life even while keeping with meagre means and some of the environmental issues of current interest.

The quality initiatives focus on instilling values among students. They are centered on student personality development, some on student-society interface for effective learning while some other deal with environmental concerns. Most, however, deal with social development, as exhorted by Swami Vivekanand, cultivating sensitivity among students towards education, education of the poor children, issues of social medicine, tribal education and development.

Society cannot be blind to happenings in the education system. The last two decades have witnessed momentous changes in our education system, not all of them desirable. Education, in the present globalization context, has come to be treated as a tradable service/commodity. The resulting cultural crisis and value decay have thrown up a new term 'value education', making it appear as though more education is totally value-less (at worst) or somewhat value-deficient (at best). The original Indian ethos, as perceived by Swami Ramakrishna Paramahansa and his illustrious disciple Swami Vivekananda, envisages education as man-making education. The goals of education in a society, to be meaningful in the larger sense, need to be aligned with its values. It is to bring about, sustain and strengthen this alignment with the project, Vivekananda Sammelan and Radha Krishanan Sammelan widely supported by the SSA authorities and stakeholders in the education.

To inculcate in the school children, human values like selflessness, devotion to duty, the joy of dedicated service, purity, honesty, integrity of character, truthfulness, tolerance of other faiths, liberal outlook, scientific temper, and catholicity among others is the role purpose of education. The impact is widespread over student-teacher community, student community in the target group, teacher community of the target group schools, and society at large. When the students and teachers of one school 'carry' the educational ideas, vision and ideals to other schools and other educational institutions, it is a very different experience for them. It awakens a new consciousness and a sense of self-introspection among them. Questions arise: 'Are we really committed to the ideas and ideals we are trying to impart to others?' This would have a truly sanitizing influence on their minds and hearts. They will have a sigh of relief, and a sense of satisfaction will begin to pervade them as they pass on a cup of inspiration, the cup that has satisfied their thrust.' (Need for Quality and Excellence in Higher Education)

Youth of any country is shaped in the classrooms of her schools. The quality, therefore, of the youth directly depends on the quality of education. Hence quality has rightly been expressed as a major concern in Indian Education. So many major policy statements on improvement of quality in education have been assessed.

Social labs also play a major role to enhance the quality of education. They provide the students an exposure to contemporary social reality. Introduce them to the pedagogical process of sociological reflection and analysis based on empirical empowerment through the convergence and involvement of various departments which develop the skills of integrating theory and practice in students.

ECCE centres, EGS centres are the kind of Social Labs run by SSA. Social Lab is always there and it is Garden/School Vatika where the student can be made to learn almost every subject languages, science, maths, environment etc. But some more Social Labs may be set up by SSA where the students may learn to engage in community activities such as arranging medical camps, seminars on various topics and cultural programmes. These type of activities will develop greater social sensitivity and self confidence among students. They will be able to improve the organizational skills and ability in Group Dynamics Skills. Thus, the entire activity will be an experience in sensible citizenship for the students.

In the way, such type of Social Labs and quality initiatives will typify the language effects on the value based education of the children.

For the fulfilment of the objective-universalization of elementary education-SSA must help its teachers to form some of the associations such as:

- The Association of Mathematics Teachers.
- The Association of Science Teachers.
- The Association of Language Teachers etc to cater to needs of the teachers in the schools. These types of associations may have a check on the drop-outs, never enrolled children and retention rate in the schools.

'Enrichment of the child's personality' be the aim of SSA. In the words of William Hazlit, it should develop "persons with a seeing eye and understanding heart."

Some Suggestions for the Achievement of Competency Based Teaching and Learning

- SSA Punjab must have the Quality Assurance Cell in ensuring effectiveness, efficiency and accountability in Elementary Education Programme. The Cell can provide a framework for designing, implementing, assessing and managing the quality of education and educational institutions in the state.
- Although on the academic front, innovative experiments such as EDUSAT is being carried out with the help of an extensive computer networking. Yet some more is expected. E-learning, on-line testing and evaluation must also be carried out to make the teaching learning process interactive and participatory.
- Evaluation of the teachers work through Teacher Assessment Questionnaire other than the ACR must be carried out before giving them increment.
- During Teacher Training Programme teacher must be given the training to learn about the sociometric and psychometric techniques to identify different categories of students.

- Action Plans on teaching learning must focus on the knowledge management. Therefore, there is necessity of redesigning the curricular offerings towards employable career orientation. Curriculum design, assessment and evaluation must begin at the appropriate point and time.
- Students motivation is the need of the hour for their retention in the schools. So to gain this goal, comparison of the ideal and real models of learning process should be identified and appropriate study strategies must be planned. Courses may be developed by IGNOU in this perspective.
- The process of Departmental Accreditation for the schools must be initiated and adopted.
- The Education Department should launch programmes to enhance the horizontal mobility other than the vertical mobility (movement within and across disciplined) of the student.
- Enrichment courses must be launched both for the students and the teachers.
- More learning resources must be provided.
- Programme options must be offered to the students/learners.
- Telamatics must be made compulsory for the teachers.

In nutshell, we can draw out that quality does not brook any shortcut as it is not an accident but a continuous journey and client focused approach to continuous improvement. Person as a student undergoes this improvement with the help of a teacher. In the process of competency based teaching and learning, teacher himself/herself is a supplier as well as the receiver who undergoes the wide range of methods that help in looking at the issues of quality education and at the issues of the quality initiatives from a sound conceptual platform i.e. SSA.

AN INNOVATIVE APPROACH FOR TEACHING AND LEARNING OF CHEMICAL FORMULA OF COMPOUNDS

N. Sathi

ABSTRACT

Science has brought about changes in our way of thinking, attitude, outlook etc. it promotes thinking, reasoning, curiosity, open mindedness and scientific outlook. Kothari Commission (1964-1966) and National Policy on Education (1986) underline the importance of science education. The values like sense of duty, self dependence, truthfulness, freedom from fanaticism, equality, patience, honesty, modesty are developed through science education. Science education programmes should be designed to enable learners to acquire problem solving and decision making skills. It promotes scientific attitude of students and contributes for the development of attitude and application of skills. In chemistry, the competencies are interrelated. Hence the attainment of basic competencies is important for learning higher concepts. The students of upper primary level are unable to correlate the valency of elements or radicals with the chemical formula of compounds. They simply memorize the formula of compounds without understanding their structure. The teachers, instead of motivating the learners to learn upto higher cognitive level, present only the facts or information.

In order to address this problem, a study was undertaken. A pre-test was conducted before the treatment of the perceived problem. The investigator designed the strategies such as Pairing Exercise and Group Tasks which familiarize the students with valency of elementals or radicals. These activity based strategies enhance the students' learning of the competency, 'valency'. Remedial measures were planned for the students with problems in learning valency.

After clarifying the competency of valency, Card Cluster Activity and Scaffolding Activity were adopted to teach the mechanism of naming the compounds and understanding the formulae of chemical compounds. The students were facilitated to do activities related to these competencies on their own. The mean values of pre-test, post-test and standard deviation were calculated. The mean values of pre-test (42.675) and post-test (78.562) differed significantly at 0.05 levels by employing 't' test. The results indicated the students are able to correlate the concept of valency with the formula of chemical compounds, their interest in constructing chemical formula is enhanced. If the students are taught chemistry with some activities, they need not memorize the concept blindly. Teachers should be innovative to devise their own methods of teaching. Teaching should be learner-centred, participatory to enhance the students' participation in the learning process. Teachers should be oriented to transform themselves into reflective practitioners in order to motivate the students for better learning. If the teachers reflect these quality inputs in the actual classroom, the quality of elementary education and the objectives of SSA can be achieved in its true sense.

1.0 INTRODUCTION

Science has revolutionised our life style and brought about tremendous changes in our way of thinking, attitude, outlook etc. It promotes the power of thinking, reasoning, curiosity, open-mindedness and scientific attitude. Kothari Commission (1964 – 1966) reports that, "We lay great emphasis on making science an important element in the school curriculum. We therefore, recommend that science and mathematics should be taught on compulsory basis to all pupils as a part of general education during the first ten years of schooling. In addition, there should be provision of special course in these subjects at the secondary stage, for students of more than average ability". Similar to this, UNESCO's International Commission in 1972 stressed the need of science education. Herbert Spencer (1820 – 1903) not only advocated the teaching of science but also proved science to be the most worthy subject of study from the utilitarian point of view in his book. 'What Knowledge is of Most Worth'?. National Policy on Education (1986) reports, " Science education will be strengthened so as to develop in the child well-defined abilities and values such as the spirit of inquiry, creativity, objectivity, the courage to question and an aesthetic sensibility". Science is the most inexhaustible storehouse of knowledge, which opens new horizons of knowledge everyday it is continuously adding to the cultural heritage of mankind, the ever increasing new knowledge, new explorations and new ideas. As the education is aimed for the integrated development of personality through attitudinal change or behavioural modifications, the importance of social, cultural and ethical aspects of science cannot be ignored. The values like sense of duty, self dependence, truthfulness, freedom from fanaticism, human equality, co-existence, patriotism, mental equilibrium, patience, honesty, compassion, modesty, self-discipline, friendliness, will-power etc. are developed through science education. National Policy on Education (1986) says that, "Science Education programmes will be designed to enable learner to acquire problem solving and decision making skills and to discover the relationship of science with health, agriculture, industry and other aspects of daily life. Every effort will be made to extend science education to the vast numbers who have remained outside the pale of formal education".

1.1 Teaching of Science

Science is not a large volume of information to be transferred as a finished product and to be learnt by rote. Scientific method or scientific attitude that enables the students to search in the current knowledge base of the world should be developed by means of science education. The primary objective of teaching of science is to develop scientific attitude. It ascends from the basic knowledge level to the development of right attitudes and effective manipulation of skills. Dr. A.D. Little says that, "the fifty estate is composed of those who have the simplicity to wonder, the ability to question, the power to generalise, the capacity to apply. It is, in short, the company of thinkers, workers, expounders and practitioners upon whom the world is absolutely dependent for the preservation and advancement of that organized knowledge which we call science.

1.2 Role of Teachers in Teaching of Science

The teachers of science must have extensive knowledge of the subject being taught and of how students learn the subject. The teachers should know the conceptual frames of the students in that subject which enables them to develop strategies capable of producing change and growth. The curriculum of science is designed to equip students with knowledge, skills, values and dispositions useful both inside and outside of school. Instructional goals should develop students' expertise within an application context and conceptual understanding. The role of teachers is not just to present information but also to develop strategies, which support and respond to students' learning. The teachers should motivate learners to actively make sense and construct meaning instead of mere copying or absorbing. The teachers should plan for activities and assignments that call for problem solving or critical thinking, not just memory or reproduction.

1.3 Teaching of Chemistry

Chemistry, the study of substances and their reactions, is one of the important branches of science taught at upper primary level. The knowledge on atoms, elements, molecules, mixtures, compounds, valency, electrons, protons and neutrons has wide range of application at higher level. The attainment of basic concepts in chemistry is very important for learning higher competencies because of the interrelations they have with each other. In Std.VI, atoms, elements, their names and symbols are introduced. In Std. VII and VIII, the students are taught chemical compounds, their formulae and the chemical reactions. The variety of anions and cations, their varied combinations produce different compounds, which are nothing but elements in fixed proportion. The students of upper primary level have the problem in understanding the names of chemical compounds and their formulae. They are unable to correlate the valency of elements and the chemical formulae of compounds. If this problem remains unaddressed, they develop a kind of negative attitude towards chemistry and hence equations look Greek and Latin to them. Hence the investigator selected the problem on the theme: "An Innovative Approach for Learning Chemical formula of Compounds" for the study.

2.0 STATEMENT OF PROBLEM

The students of upper primary level are unable to identify various compounds, their names, and chemical formulae and hence they find it difficult to balance even simple chemical equations. The investigator observed this problem in his routine school observation. The students of upper primary level learn the chemical formulae and equations by rote. They do not understand what valency of an element stands for though they are able to define what valency is. The same cation gets various proportions based on the anion that joins with it. This causes anxiety and stress for the students. The textbook does not clarify these problems of students. The students do not know the distinction between sodium bicarbonate and sodium carbonate. If the students learn higher competencies without clarity of basic competencies, they tend to memorize everything and reproduce them for the mere sake of examination. They are unable to enjoy the beauty of the subject as there exists unexplainable fear in respect of the subject.

3.0 OBJECTIVES OF THE STUDY

The following were the objectives of the study:

- To clarify the names of chemical compounds.
- To adopt various innovative strategies which enable learners to understand the formulae of chemical compounds.
- To develop the understanding of concepts of chemistry.
- To empower the learners to enjoy the beauty of the subject.

4.0 CAUSES OF THE PROBLEM

The investigator visualizes the following as the probable causes of the problem.

i) Students do not have clarity on valency of elements.
ii) They are unable to correlate the valency of elements with the formulae of compounds.
iii) They are unable to understand the variety of chemical compounds based on the anions and cations.
iv) They do not have motivation to clarify these concepts.
v) Examination oriented, teacher-centered approach of teaching encourage the students to learn the chemical formulae by mere drilling.
vi) Lack of attitude among teachers to devise remedial strategies to address the problems of students.

5.0 HYPOTHESIS OF THE STUDY

There exists a significant difference between the mean achievement scores of pre-test and post-test measuring performance in respect of chemical compounds, their names and chemical formula.

6.0 SAMPLE OF THE STUDY

The sample constitutes 40 students studying in Std.VIII in a Corporation Middle School, Chennai. Random sampling technique was adopted to select the sample

7.0 ADMINISTRATION OF PRE-TEST AND POST-TEST

The sample was administered a pre-test before the launch of the treatment based on the topic. The questions, which test the understanding of students, were prepared. After the treatment, the sample was administered a post-test. The papers were assessed and the marks are expressed in percentages.

8.0 STATISTICAL TECHNIQUES USED

Means and standard deviation were computed. The ' t' test were used to compare the performance of students in pre-test and post-test.

9.0 METHODOLOGY

The investigator designed the following methods to teach chemical compounds, their names and chemical formula.

9.1 Familiarizing Valency of Radicals

Valency, the combining capacity of an element is the basic for the construction of chemical formula of compounds. The students should be familiarized with the concept of valency to learn higher competencies of chemistry. The investigator prepared flash cards in which the cations are written on each card. On the reverse of the card, the valency of the corresponding cation was written. The concept was introduced as monovalent, bivalent, trivalent elements and so on. Similar task cards were prepared for anions also. Another set of cards having only names of radicals was prepared.

Paring Exercise

The students were given one card each. When the investigator calls monovalent radicals, the students holding the cards of monovalent radical form a group. Similar exercise was given for bivalent, trivalent, and so on. The investigator verified the group formation and organized remedial teaching to the students who required individualized instruction.

Group Tasks

The class was divided into 2 groups designated as Group A and Group B. The Groups were provided with cards in which the names of the radicals were written. The task was assigned in such a way that when a student of group A read the name of the radical, the student of group B was to give the valency of the corresponding radical and vice versa.

- The class was divided into 2 groups. When a student of Group A reads the name of the radical, a student of Group B had to pick out a corresponding valency card and pair with the partner concerned. This activity familiarizes the students with the names of the radicals and their valency which is the basic competency for naming the chemical compounds

Naming and Constructing Chemical Formulae of Compounds

After clarifying the concept of valency, students were taught the competency of naming and constructing chemical formulae of compounds. The investigator designed the following activities for teaching this competency.

i) Card Cluster Activity:

The students were provided with two sets of cards. One set of cards had the anions written on them and another set, cations.

Na^+

Ca^{2+}

Zn^{2+}

Pb^{2+}

CO_3^{2-}

Cl^-

SO_4^{2-}

NO_3^-

As the students were familiar with the valency, they had no problem in understanding the concept of + , 2+ , 3+ and -, 2-, 3- and so on super scribed the radicals.

A game was organized in the classroom using card clusters. Group A was given a card of cation. A student of Group A reads the name of the cation and called the anion to be combined with it. Then the student of Group B holding a corresponding anion joined with him and both of them jointly spoke the name of the compound aloud. This game was continued for various compounds.

e.g.

Group A Group B
Calcium Chloride
Ca^{2+} Cl^-

$Cacl_2$
Calcium Chloride
Group A &B

This exercise was continued for many other compounds.

2). Scaffolding Activity:

Scaffolding is the technique in which the investigator provides support to the students initially and withdraws later. The investigator writes the name of the cation on the blackboard. Then he writes an anion beside the cation. Beneath these, he writes the formula of both. The corresponding valencies are interchanged to show the relationship between the valency and chemical formula.

Magnecium ion Chloride ion
Mg^{2+} Cl^-

Mg Cl ---------------------------Step -1

$MgCl_2$----------------------------------Step-2
Magnecium Chloride

After some examples, the investigator writes only the names of anions and cations on the blackboard. The students are assigned the task of constructing the names of chemical compounds and their formulae on their own.

10.0 FINDINGS AND DISCUSSION

The mean value of pre-test is 43.675 while the mean value of post-test is 78.562. Using t-test, the difference between the means of pre-test and post-test is significant at 0.05 levels. The students were unable to correlate the concept of valency with chemical compounds. Hence their score in pre-test was low. When they understood the valency, method of forming compounds and naming them became easier task. Such a kind of motivation, well-defined methodology and adoption of innovative techniques equipped the students to score higher in the post-test. The result revealed the fact that students should be well clarified with the basic concepts for learning higher competencies.

Sl.No.	Test	N	Mean	Standard Deviation	't'value
1.	Pre-test	40	43.675	11.087	17.623*
2.	Post-test	40	78.562	5.817	

*'t' value is significant at 0.05 level.

11.0 EDUCATIONAL IMPLICATIONS

Learning becomes holistic if it has a long tern effect. Learning of one concept facilitates the learning of another concept. Hence concept clarity is very important for developing interest in a subject. If the students are provided with such activities as done by the investigator, the students can understand the names of compounds and their formula. They need not memorize them blindly without any thinking process. Designing such activities enriches the students' level of learning and they get empowered to coin the formula of any compound without any difficulty. If this is not done at the initial stage of schooling, they get used to the habit of rote memory and then memorize equations at higher levels. They develop a kind of aversion for the subject, Chemistry. It would be better and feasible for the teachers to adopt such strategies to teach chemical formula and thereby arouse the interest of students in learning Chemistry.

12.0 SUGGESTIONS

Teachers should use methods for teaching chemistry based on their attitude and innovations in teaching. The ultimate aim of teaching is that the students should understand the concepts as clearly as possible and retain them in long term memory. The teachers should be oriented exclusively on the teaching of chemical compounds by organizing in-service training programmes. The best approaches of teachers to teach chemical formula should be shared among themselves. Instead of mere completion of course content, teachers should own the responsibility of clarifying the fundamental elements of chemistry.

13.0 CONCLUSION

Quality of elementary education can be ensured by the adoption of innovative, learner-centred, participatory approaches of teaching and learning. The teachers should be innovative in designing suitable teaching learning methods which enhance the learning of students upto the higher cognitive levels. The schools should provide a platform for all round development of a child and attainment of all the competencies as prescribed in the curriculum and syllabus. The teachers of science, especially chemistry should ensure the understanding and application of competencies whereas mere accumulation of knowledge or facts for the sake of examinations will fetch the outcomes for the short term only without contributing for transfer of learning. The teaching and learning of chemistry should be a 'process' of real learning instead of the 'event' of completion of topics. Teachers should be reflective practitioners in order to motivate the students for better learning, if quality inputs provided by SSA of the states concerned are reflected in the actual classrooms, the objectives of SSA quality of elementary education can be achieved in its real sense.

14.0 REFERENCES

- Baird, B. (1995*). Status of science education in rural schools.* In P.B. Otto (Ed.), Science Education in the Rural United States (pp.15-30). Washington, D.C: Office of Educational Research and Improvement (ED).

- Cleminson, A. (1990). "Establishing an epistemological base for science teaching in the light of contemporary notions of the nature of science and of how children learn science". *Journal for Research in Science Teaching,* 27, 429-445.

- Ladson-Billings, G. (1995). "Toward a theory of culturally relevant pedagogy". *Journal of Educational Research*, 32, 465-491.

- Parmer, R., & Cawley, J. (1993). Analysis of science textbook recommendations to meet the needs of students with disabilities, *Exceptional Children,* 59, 518-531.

- Parsons, J.S., Kaczala, C., & Meerce, J.L. (1982). Socialization of achievement, attitudes and beliefs. Classroom influences. *Child Development,* 53, 322-339.

- Van M. Sickle, & Spector, B. (1996). "Caring relationships in science classrooms: A symbolic interaction study". *Journal of Research in Science Teaching,* 33 (4), 433-454.

- Baird, B. (1995) Status of science education in rural schools. In P.B. Otto (Ed.), Science Education in the Rural United States (pp. 15-30). Washington, D.C: Office of Educational Research and Improvement (ED).

- Cleminson, A. (1990) "Establishing an epistemological base for science teaching in the light of contemporary notions of the nature of science and of how children learn science". Journal for Research in Science Teaching, 27, 429-445.

- Ladson-Building, G. (1995). "Towards a theory of culturally relevant pedagogy". Journal of Educational Research, 32, 465-491.

- Parmer, R., & Cawley, J. (1993). Analysis of science textbook recommendations to meet the needs of students with disabilities, Exceptional Children, 59, 518-531.

- Parsons, J.S., Kaczala, C., & Meerce, J.L. (1982). Socialization of achievement, attitudes and beliefs. Classroom influences. Child Development, 53, 322-339.

- Van M. Sickle, & Spector, B. (1996). "Caring relationships in science classrooms: A symbolic interaction study". Journal of Research in Science Teaching, 33 (4), 433-454.

AN INNOVATIVE APPROACH FOR TEACHING AND LEARNING SQUARE ROOT

B.Tamil Selvi

ABSTRACT

Indian Education, today faces the qualitative and quantitative changes which can be initiated and tackled only by the innovative teachers. Various Educational Commissions have emphasized the need of efficient teachers for improving the quality of education. The teachers need new orientation in innovative practices in their profession. Innovation and changes in the field of education keep the educational endeavour dynamic and bring about changes in the strategies, teaching methods, organization and curriculum. The innovation of procedure and purpose contribute to the enhancement of quality education.

Mathematics is taught to the students with the aim of transforming them into a whole organism with holistic knowledge, ideas and skills. Our mathematics textbooks do not cater to the needs of the students. The objectives of teaching Mathematics of the elementary education level are not fulfilled by the instructional materials developed and the methods adopted. The students generally learn the steps of solving the problems of mathematics by mere drilling as they apprehend that mathematics is abstract. Mathematics of upper primary level includes the areas such as numbers, basic operations, algebra etc. the attainment of clarity of basic concepts is important for learning higher competencies. The problem area in Arithmetic chosen by the investigator is the teaching and learning of square root which is mostly learnt by practice without understanding the fundamental concepts.

The selected sample of students was administered a pre-test before the launch of the treatment and the post-test after the treatment. Means and standard deviations were computed, and 't' test were used to compare the performance of students in pre and post test. The investigator designed 'Pairing Techniques' for finding the square root for a given number. A logical pairing of students based on the last digit of the square root is also organised. In 'Scaffolding Technique', the investigator generalized the number of digits in the square root using the square number with odd digits and even digits. The investigator geometrically explained the concept of square based on the area of square. The traditional long division method was adopted with participation of students with concept clarity. The mean of pre-test came out to be 46.175 and that of the post-test as 71.875. The difference between the means of the above was significant at 0.05 levels. In view of these results it was inferred that the teachers need to adopt innovative strategies to create the interest of the students in learning Mathematics. Such a kind of motivation enables the students to explore the problems logically and analytically. If they are professionally committed and they have positive attitude in teaching, the objectives of quality elementary education can be achieved.

1.0 INTRODUCTION

Indian education today is passing through a stage of transition. Ever since the attainment of independence, there are signs of evidence showing all round change and improvement in the field of education. Indian education is facing two types of challenges; one is increase in numbers meaning that more and more students are coming to school (quantitative) and second is that the students demand good education (qualitative) as their birth right. Hence it is important to realize that these challenges in Indian education can be tackled only by teachers. The Secondary Education Commission has also called for such a new outlook in teachers. The commission emphasised: that the teachers must develop a new orientation to their work. They will not look upon the work as an unpalatable means of earning of scanty living but an avenue through which they are rendering significant social service as well as finding some measures of self-fulfilment and self-expression. Also the teachers should have the mastery over the subject matter they teach. Knowledge is often said to be power, the application of knowledge is real power. The teachers should acquire knowledge of other subjects also. They need not be only scholars but they should know the 'subjects' well enough to be able to present them in an innovative and interesting manner.

1.1 Need for Innovations in Instructional Practices

Absence of innovation results in stagnation. Changes should be made in education not just for the sake of mere change but for the better change, reform and progress. Innovation in education refers to changes in respect of goals, strategies, teaching methods, structure, organization and curriculum. The Regional Conference of Ministers of Education in Asia at Singapore in 1971 explains "Innovation is the introduction of a new idea, process or technique and its adoption for widespread use to replace an existing practice or technique. It is not the change for the sake of change. It is controlled and regulated by testing and experimentation". There are innovations of procedure and of purpose. Any change that affects how curriculum content should be presented to students is defined as an innovation of procedure. Any change that affects the joint consideration of what and why particular curriculum content should be presented is defined as innovation of purpose.

1.2 Mathematics for Life

Does Mathematics as a subject meet our needs of today? Are the mathematics curricula and programmes modern? Is proper social attitude developed through mathematics? Are accuracy and speed attained? These are significant questions related to the learning outcomes of teaching of mathematics at upper primary level. Learning is defined as the modification of behaviour and the child should be changed to an active organism with wholesome knowledge, ideas, skills, habits and understanding. But are these things achieved through the teaching of Mathematics? We all want Mathematics for a proper development of the child so as to guide him to become a socially useful and intelligent citizen of our great country.

Our textbooks by and large seem to depict a big gap in the teaching of Mathematics. There is a gap between the needs of our times and achievement in Mathematics. Outmoded problems, topics, methods and practices still prevail in our text books. New dimensions of thinking have not gone into the teaching learning situations. Mathematics is not just the answer or the response. The total pattern is important. Instructional materials are therefore to be developed to meet the wholesome objectives. The teachers should develop in our pupils an appreciation of the nature of Mathematics. The students should be helped to solve their every day problems with speed and accuracy. The concepts and relationships are important rather than blind following of rules and mechanical procedures. Mathematics has to be so well taught that the social purpose is achieved. The New Education Policy (1986) has also proposed new methods of teaching and learning according to the modern times. The practice of teachers "Telling" and the pupils "memorizing" does not develop right thinking, initiative and effort on the part of the pupils. Team spirit, individuality, and brotherhood have also to be developed in our children and youth by means of teaching of Mathematics. The questioning mind is to be developed among children to be creative. This requires teachers to be innovative while transacting the curriculum content among children.

1.3 Teaching of Arithmetic

Arithmetic is the science of numbers. It involves the art and skill of computation. Historically, it developed out of the need for the system of counting and it is essentials for successful living. The teaching of Arithmetic has to fulfill the following two major responsibilities.

1. The inculcation of an understanding of our number system and proficiency in its fundamental processes and
2. The socialization of the number experiences

The aims of teaching Arithmetic are

- To teach the learner the mathematical type of thought to understand statements, to analyse them and to arrive at right conclusions,
- To arouse the child's interest in the quantitative side of the world around him and its use as the simple tool in business.

- To give accuracy and facility in simple computation of the fundamental processes.
- To impart a working knowledge of practical arithmetical applications which are useful in life.
- To prepare the way for higher Mathematics.

1.4 Methods of Teaching

How to teach is really a difficult problem for the teacher. Teaching, as generally said, is an art. Methods are the ways to understand and practice this art. Different methods of teaching have been proposed or propounded by different educational thinkers in education according to the type and nature of different topics. Every teacher has to make his own choice rationally keeping in view the facilities available and the topic to be discussed. The teacher has to keep himself on the right side of every method. Broadly speaking, he will be the master of every method in real sense. He has to evolve his own method and formulate a teaching style of his own. His best method is to be his own individualized and personalized method, which is the result of his rich and varied experience in teaching. His method, an amalgam of all the known qualities, would obviously carry the stamp of his individuality. He can teach best as he learns and experiences teaching. Preferably, he would adopt Heuristic Approach as an overall procedure in teaching which would be pupil dominated method rather than teacher dominated. He needs to give maximum opportunity of participation to the students.

Mathematics of upper primary level includes the areas such as numbers, basic operations, algebra, geometry, measurement and mensuration etc. The attainment of clarity of basic concepts is important for learning higher competencies. The problems of students in understanding the concepts should be addressed otherwise the problems would remain in the minds of students which would hinder their conceptualization, understanding and application of concepts in real life situations. One such problem perceived by the investigator in her school observation is 'square root'. This competency is introduced in Std. VIII. The students have difficulty in finding the square root for a given number. A lot of confusion exists among students in finding the square root by the teacher centred traditional method since the method is similar to the long division method used in division. Hence the investigator undertook the study on the topic: "An Innovative Approach for Teaching and Learning Square Root".

1.5 Statement of the Problem

The students of Std. VIII find it difficult to compute the square root of a number by using the traditional method. The investigator observed this problem in her classroom teaching learning process. The students have problems in finding the square root because of the interference of the concept 'division'. They are unable to overcome this difficulty and this ultimately results in arriving at wrong answers and concept formation. Hence the investigator selected the problem for the study based on the competency of square root.

2.0 OBJECTIVES OF THE STUDY

The objectives framed for the present research study were:

- to find out the innovative strategies which enable the learners to understand the concept of square root in arithmetic,
- to clarify the methods used in finding square root to the students,
- to develop an understanding among students in finding square root
- to strengthen the teaching methods for developing competency for computing square root through innovative activities
- to orient students to find the square root correctly.

3.0 CAUSES OF THE PROBLEM

The investigator felt that the following are the probable causes of the problem:

- Teachers are unable to incorporate the competency of finding the square root by means of approximation,
- Teachers do not orient the table of squares and their relationships,
- Teachers are unable to relate the number of digits in square root and their square numbers,
- Teachers are unable to exploit the methods already known to the students like Prime Factorization,
- Teachers are unable to interlink the algebraic concept of square root with the area concept in geometry, and
- Teachers are unable to diagrammatically represent the square root.

4.0 HYPOTHESIS OF THE STUDY

There exists a significant difference between the mean scores of achievement of students in computing square root of pre-test and post-test.

5.0 SAMPLE OF THE STUDY

The sample comprised 40 students studying in Std. VIII in a Government Middle School, Chennai. Random Sampling Technique was adopted to select the sample.

6.0 ADMINISTRATION OF PRE-TEST AND POST-TEST

The sample was administered a pre-test comprising of the problems of square root before the launch of the treatment based on the topic. The sums which test the computation of square root were given to the students. After the treatment, the sample was administered a post-test. The answer scripts were evaluated and the marks were converted in percentages.

7.0 STATISTICAL TECHNIQUES USED

Means, Standard Deviations were computed. The 't' test was used to compare the performance of students in pre-test and post-test.

8.0 METHODOLOGY

The investigator designed the following activities for effective teaching and learning of the competency: Square Root.

8.1 Pairing Techniques

i) This activity enabled the students to know the squares of all the numbers from 0-20. The investigator divided the class into two groups: Group A and Group B. Group A was given a card in which the numbers from 0-20(whole numbers) were written one in each card. The task is designed in such a way that when a student of Group A reads the number, a student from Group B had to give the square of the corresponding number.

ii) Restricting the number cards for 0-10 and their corresponding square cards, the activity was designed. The student holding the square number card whose last digit matched with the last digit of the partner's number card paired with other, i.e. 0 with 100, 1 with 91, 4 with 64, 9 with 49 and 16 with 36. Along with them, the corresponding members of Group A holding whole number cards(0 to 10) joined and formed a group to show that the square numbers which end with 0 has square root, 0 and 10 and so on.

8.2 Scaffolding Technique

The class was divided into two groups. The groups were given square number cards and their corresponding square root number cards. The number of digits in the square number ranging from 1 to 7 was chosen. If the number of digits in the square number is even, the students holding such cards formed a group. Similarly, the students holding the number of digits as odd number formed a group. The investigator helped the students to arrive at two different generalizations. If the number of digits(n) was even, the number of digits in the

the support extended to the students and motivated them to involve in activities on their own choosing the relevant problems from the text.

8.3 Geometrical Explanation for Finding Square Root

This activity was based on the geometry of square root. The concept 'square root' could be explained with the application of Geometry. The following steps were adopted for this activity.

Step-1

A square sheet of paper was taken and the given square number is written on the number that represented the area (A) of the square.

Step-2

A square (B) was formed from square (A) such that it is the nearest square number expressed as multiples of 100 which is less than the given square (A) number.

Step-3

The difference between the areas of two squares (Square A&B) was found from the figure which was equal to the area of the square number.

Step-4

The clarification was given that this difference in area represents the area of the rectangle and the breadth of it helps in finding the square root which represents the side of the square.

8.4 Long Division Method

The teacher used the square number to digits ranging from 3 to 7 and solved the problem using the Long Division Method for finding the square root. This method is presented in various stages.

Stage-1

Take a square number. The given square number was written on the black board. The numbers from the right taking two digits at the time are clubbed together as shown here.

3481

•
3481
• •
3481

After clubbing the numbers, the left most digit will be single if the number of digits is odd and it will be in pair, if the number of digits is even.

Stage -2

The square root of the clubbed pairs of numbers is calculated from the left side by finding the nearest square number which is less than the given number and the difference is taken as reminder as shown below.

$$\begin{array}{r|l} & \;5 \\ \hline 5 & 3481 \\ & 25 \\ \cline{2-2} & 0981 \end{array}$$

Stage -3

The quotient is multiplied by 2 and the product is written outside in line with the reminder.

$$\begin{array}{r|l} & 5 \\ \hline & 3481 \\ 5 & 25 \\ 10 & 981 \end{array}$$

Stage- 4

Now using the Pairing technique activity as given in 2, the square root of 981 is found out. The quotient gives the square root of the number.

$$\begin{array}{r|l} & 59 \\ 5 & 3481 \\ & 25 \\ \hline & 0981 \\ 10 & 0981 \\ \hline & 0 \end{array}$$

9.0 FINDINGS AND DISCUSSION

Sl.No.	Test	N	Mean	Standard Deviation	't' value
1.	Pre-test	40	46.175	7.506	14.830*
2.	Post-test	40	71.875	7.661	

*'t' value is significant at 0.05 level

The result revealed that mean score in the pre-test is 46.175 and the mean score in the post-test is 71.875. The difference between the means of pre-test and post-test is significant at 0.05 level by employing 't' test. There is a significant raise in the post-test scores of the students. This indicates that the students were motivated to perform higher in finding the square root by the adoption of the activity based methodology by the investigator. Besides, the students were motivated and encouraged to

- reason out and think which creates way for better understanding
- increase the speed and accuracy in calculating the square root
- enhance the understanding of the concept by the sequential explanation
- understand the concept at the higher cognitive level that enables them to recall the concept easily.

10.0 EDUCATIONAL IMPLICATIONS

Mathematics plays a very important role in building up modern civilizations by perfecting all sciences. The knowledge of its fundamental processes and the skill to use them are the preliminary requirement of learning higher Mathematics. All arithmetic taught in schools has got immense practical values in life. The knowledge and skill in these processes can be provided in an effective and systematic manner only by the effective teaching of Mathematics in schools.

Most individual and group projects in life fail for want of sense of calculation. The teaching of mathematical concepts and its application contributes for transfer of learning. Hence, it is vital that the teachers have to adopt new innovative strategies to teach Arithmetic in order to kindle the interest of students in learning Mathematics. Such a kind of motivation enables the students to explore the problems logically and arrive at conclusions analytically. Lack of understanding and logical thinking on basic concepts hinder the learning of higher and related competencies in Mathematics. If the students mechanically do the sums without any analytical thinking, their mathematical reasoning ability does not get developed.

11.0 CONCLUSION

Interest of students is one of the principal factors of the performance of students. The students work more effectively when their interest is aroused and sustained. This is possible when the competencies are taught in an effective and innovative manner involving students in activities. It enhances the understanding of students and they participate actively in the learning process. The participatory, learner centered approaches enable students to think creatively and apply the concepts in their real life situations. Hence, the teachers have to be innovative in designing activities in classroom that maximize the students' learning. If they are professionally committed and they have positive attitude in teaching, the objectives of elementary education can be achieved and the quality of elementary education can be sustained.

12.0 REFERENCES

- Agarwal, S.M. (1987). *A Course in Teaching of Modern Mathematics Delhi*: Dhanpat Rai & sons
- Best, J.W. (1982). *Researches in Education*, New Delhi: Prentice Hall
- Bhaskara Rao, Digmarti and K.R.S. Sambasiva Rao, Editors (1996). *Current Trends in Indian Education*. New Delhi: Discovery Publishing House.
- Rai, B.C. (1981). *Method of Teaching of Mathematics*. Lucknow: Prakash Kendra
- Sidhu, K.S. (1999). *The Teaching of Mathematics*. New Delhi: Sterling Publishers Pvt. Ltd.

IMPROVING COMPETENCY OF CHILDREN IN JHARKHAND UNDER SSA

Pramod Kumar Sinha

1.0 INTRODUCTION

Jharkhand, as called the 'Rhur of India' and 'Land of forests'. Most of the land surface is hilly and belongs to a part of Chhotanagpur plateau. Despite having enormous mineral resources, profound labour force and suitable climatic conditions, Jharkhand is far below the national average as far as socio-economic indicators are concerned. About half of the population of Jharkhand lives below the poverty line. In-spite of that, the vision of the state implies that every child will receive quality education, which enables her/him to develop an ability to think, question and judge independently; a sense of self respect, dignity and self confidence, civic sense, citizenship and value of participatory democracy and to learn to internalize moral values and critical judgment, appropriate skill to enhance individual capacity and productivity to love and respect fellow, human beings and nature.

"The National Policy on Education (1986) had also emphasized the need for a substantial improvement in quality of education to achieve essential levels of learning. The Programme of Action, (1992), stressed the need to lay down Minimum Levels of Learning (MLL) at Primary and Upper Primary stage. The main indicator of the quality of elementary education can be visualized in terms of its product – the learners' competency both in scholastic and co-scholastic areas i.e. the performance in various subjects of study and habits, attitudes, values and life skills necessary for becoming a good citizen.

2.0 OBJECTIVES

- To know the status of learning competency with analysis of data from different sources.
- To aware the districts regarding their competency & action taken up.
- State/Districts should undertake priority towards quality education, an important goal of **SSA**
- Suggestion to enhance competency level to use the facilities available under **SSA**

3.0 LEARNING COMPETENCY

Learning competency levels constitute the key indicators of learning quality under Sarva Shiksha Abhiyan. It has specified the basic learning competencies expected to be mastered by every child at the end of a every grade of primary level.

These competencies have been defined for Language, Mathematics and EVS only by NCERT, which are accepted by the Abhiyan. The National Curriculum Frame work (NCF, 2005), however, takes a constructive view for re-look at the competency-based approach. To know the competency level of children in Jharkhand at primary and upper primary terminal grade of elementary education, data have been taken to analyse from District Information System of Education (DISE) 2003-04 and 2004-05. In addition to that, grade-wise competency analysis for two/ three district based on the annual examination 2005-06 has also been taken into consideration.

3.1 Competencies at Primary Terminal Grade based on DISE

There is no detention policy up to primary level implemented in the state instead of that, the scenario of promotion rate at primary level is as follows

Promotion rate

The promotion rate in the primary terminal grade in 2003-04 is more than 90% in all the districts except Simdega district (87.14%) in case of boys & Latehar district (81.87%) in case of girls. The maximum promotion rate is 97.61 % in Hazaribagh district in case of boys and 97.46% in case of girls in Sarikela district in the state. The average promotion rate in the state is 92.20% in case of boys and 91.94% in case of girls.

Taking at state average of promotion rate in 2004-05 there has been an increase by 0.58% points in case of boys and 0.76% points of girls in respect of 2003-04.

In all the districts there has been an increase in the promotion rate of boys varying from 0.27% to 7.74% except in Deoghar, Dhanbad, Gumla & Hazaribagh districts. Simdega district has maximum increase (7.74% points).

In case of girls, in all the districts there has been an increase in the promotion rate varying from 0.07% to 6.57% except in Deoghar, Dhanbad, Palamu, Sarikela and Hazaribagh districts. Simdega district has maximum increase (6.57% points) among all the districts.

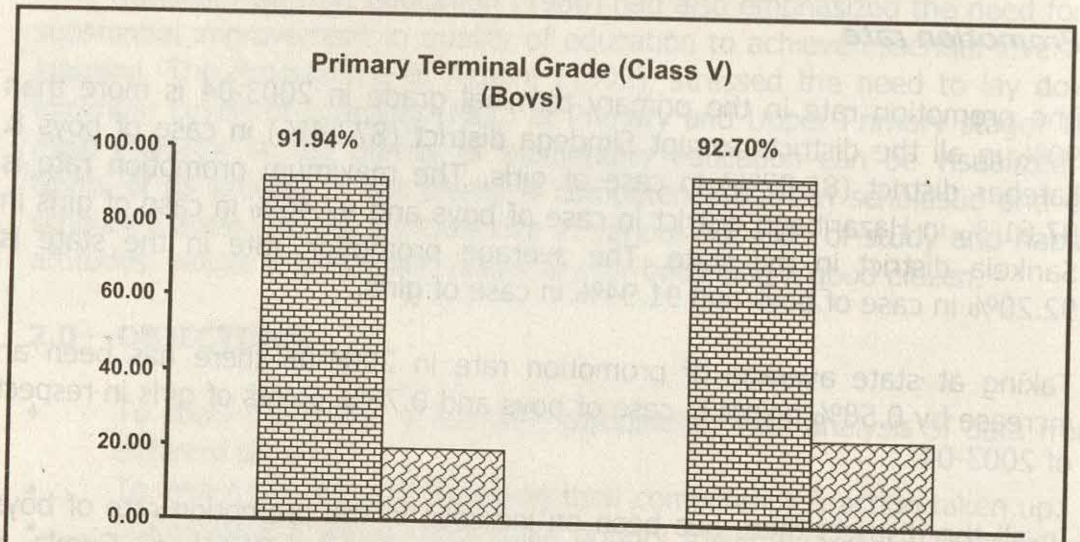
Competency more than 60%

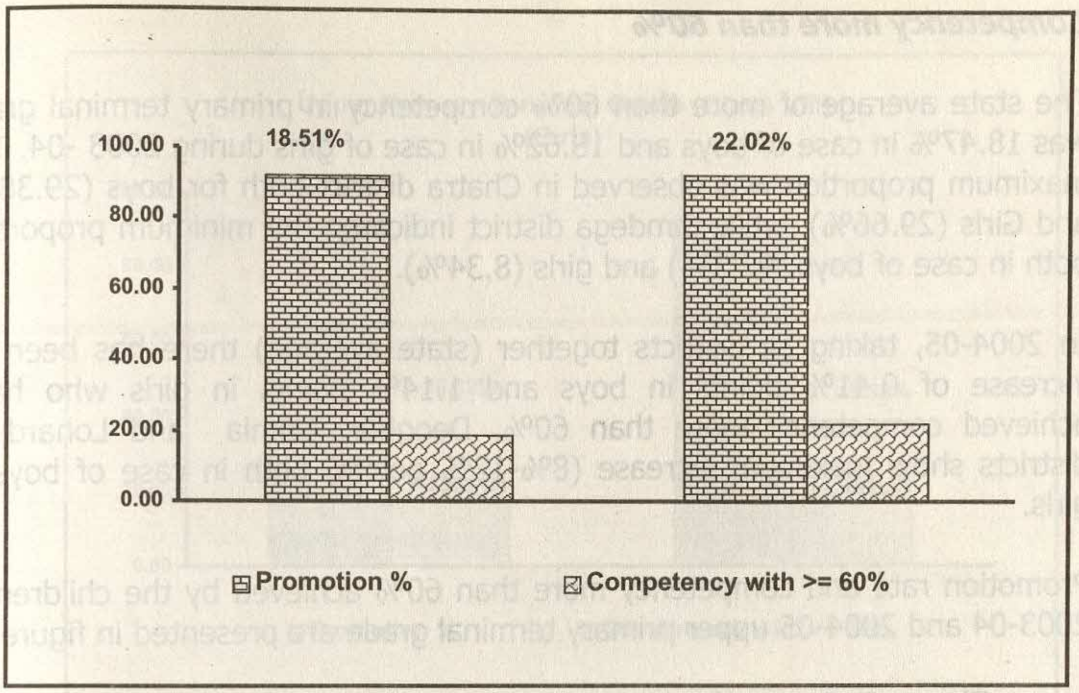
The state average of more than 60% competency in primary terminal grade was 19.59% in case of boys and 18.51% in case of girls during 2003 -04. The maximum proportion was observed in Chatra district both for boys (32.71%) and Girls (30.43%), while in Simdega district the minimum proportion was both in case of boys (10.06%) and girls (9.40%).

In 2004-05, taking all districts together (state average) there has been an increase of 3.46% points in boys and 3.51% points in girls who have achieved competency more than 60%. Gumla and Simdega districts show maximum increase (12%-15% points) both in case of boys and girls.

Promotion rate and competency more than 60% achieved by the children in 2003-04 and 2004-05 in primary terminal grade is presented in figure I.

Figure I: Promotion Rate and Competency More than 60%





Upper Primary Terminal Grade (class - VIII)

Promotion rate

The promotion rate in the upper primary terminal grade in 2003-04 is more than 90% in all the districts except Deoghar district (86.00%), Latehar (89.00%), Palamu (88.19%) in case of boys and Deoghar district (85.26%), Koderma (89.26) Latehar (86.84%) in case of girls. The maximum promotion rate is 98.70 % and 99.00% in Chatra district in case of boys; and girls respectively. The average promotion rate in the state is 90.64% in case of boys and 92.86% in case of girls.

Taking at state average of promotion rate in 2004-05, there has been an increase by 3.14% points in case of boys and 0.65% points of girls in respect of 2003-04.

In all the districts there has been an increase in the promotion rate of boys varying from 0.07% to 9.18%, except in Chatra, Deoghar, Garhwa, Gumla Dhanbad, Gumla and Simdega districts. Koderma district has maximum increase (9.18% points) among all the districts.

In case of girls in all the districts there has been an increase in the promotion rate varying from 0.40% to 11.24% except in Deoghar, Dumka, Garhwa, Gumla, Lohardaga, Sarikela and West Singhbhum districts. Ranchi district has maximum increase (11.24% points) among all the districts.

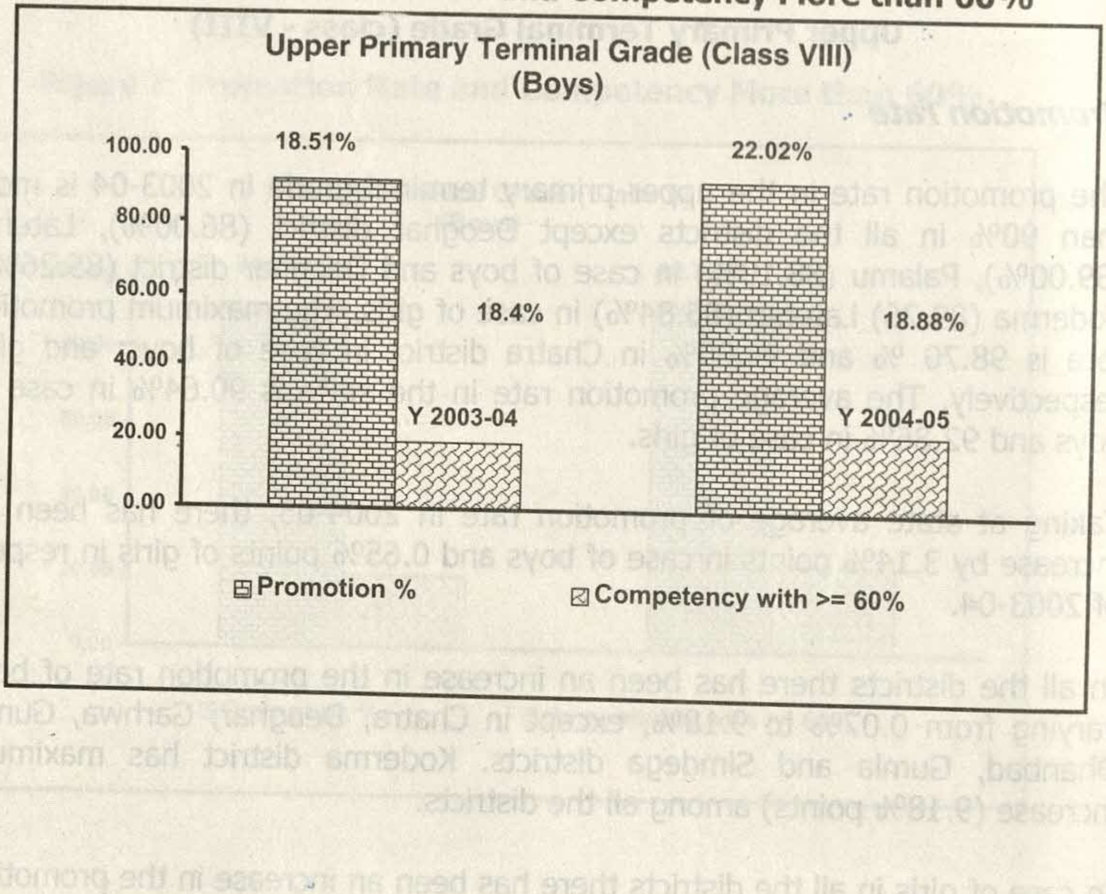
Competency more than 60%

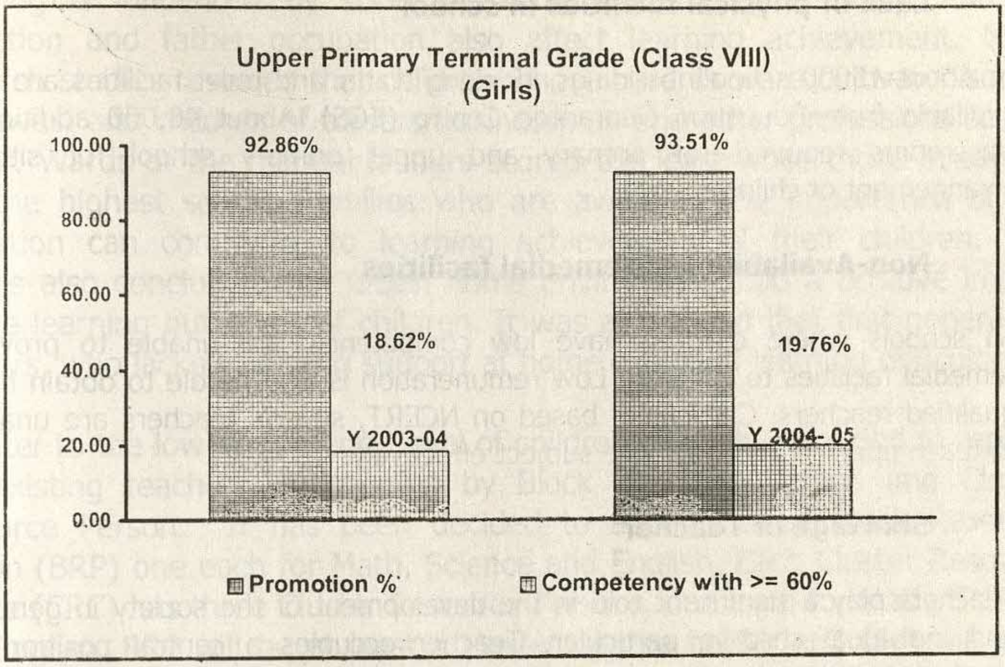
The state average of more than 60% competency in primary terminal grade was 18.47% in case of boys and 18.62% in case of girls during 2003 -04. The maximum proportion was observed in Chatra district both for boys (29.38%) and Girls (29.66%), while Simdega district indicated the minimum proportion both in case of boys (9.73%) and girls (8.34%).

In 2004-05, taking all districts together (state average) there has been an increase of 0.41% points in boys and 1.14% points in girls who have achieved competency more than 60%. Deoghar, Gumla and Lohardaga districts show maximum increase (8%-12% points) both in case of boys & girls.

Promotion rate and competency more than 60% achieved by the children in 2003-04 and 2004-05 upper primary terminal grade are presented in figure 2.

Figure 2: Promotion Rate and Competency More than 60%





Reason of Low Competency

Following are the few reasons of low competency:

- **Adoption of NCERT curriculum and late availability of text books**

State has adopted National Curriculum Frame work 2000 and curriculum designed by NCERT in 2002-03 at elementary level. But, text books based on NCERT curriculum were not available to all children in 2002-03. In 2003-04 to 2004-05 provision was made to procure text book directly from NCERT. It was seen that during that period NCERT supplied text books in the months of October- December, nearly at the end of the academic year.

- **Traditional teaching process**

A classroom is a forum for interaction between teachers and students, reflecting a place where ideas are developed, minds built and values perpetuated. The student also depends not only on what is taught and how it is taught but also on how joyful the learning process is. This is greatly influenced by the hardware of schools and teaching technologies adopted by a teacher in the classroom.

- **Lack of physical facilities in school**

In About 15000 schools buildings, drinking water and toilet facilities are not available from Education Guarantee Centre (EGS). About 40,000 additional classrooms required for primary and upper primary school for sitting arrangement of children.

- **Non-Availability of remedial facilities**

All schools where children have low competency, are unable to provide remedial facilities to children. Low remuneration is also hurdle to obtain high qualified teachers. Curriculum based on NCERT, several teachers are unable to teach upper primary science subject effectively.

- **Shortage of Teacher**

Teachers play a significant role in the development of the society in general and individual child in particular. Teacher occupies a central position in elementary education because he has to mould the personality, behaviour and attitude of students. He has to transform the child into a matured student through various formal and informal academic and co-curricular activities. It is not possible with out adequate numbers of good teachers. But it was observed that the number of Para Teachers (PT) was 70-80 in several schools in 2003-04 whereas in some districts it was more than 80.

The idea of Para Teacher is recent one. The State is recruiting Para Teachers in primary and elementary schools and maximum number of such teachers in untrained. Moreover, these teachers are working in contractual basis. Presently the PTR of the state is 48:1. Untrained para teachers are enrolled in Diploma in Primary Education (DPE) course through IGNOU for training.

- **Lack of support institutions**

State Council of Education Research and Training (SCERT) and State Institute of Educational Management and Training (SIEMAT) have not been established in the state. Only nine District Institute of Education and Training (DIET) are available in the state which is not fully functional.

- **Background of the child**

Learning is influenced by socio economic status of the family. Parental education and father occupation also affect learning achievement. Many

Learning is influenced by socio economic status of the family. Parental education and father occupation also affect learning achievement. Many research studies revealed that children whose parents were cultivator scored the lowest and children of traders/businessman and other professions scored higher. Wards of the manual labours scored the least while those in service had the highest scores. Families who are aware of the importance of the education can contribute to learning achievement of their children. The studies also concluded that urban home environment had a positive impact on the learning outcomes of children. It was also found that first generation learners, who lacked learning support at home exhibited learning difficulties.

To cater to the low competency level of children, State has decided to replace the existing teachers, functioning by Block Resource Person and Cluster Resource Person. It has been decided to appoint three Block Resource Person (BRP) one each for Math, Science and English. Each Cluster Resource Centre (CRC) has three Cluster Resource Persons, one each for Math, Science and English. BRP will be at least a Master degree holder and CRP will be a Graduate in the respective subject. Project Approval Board (PAB) of Sarva Shiksha Abhiyan (SSA) has to support the above decision of state government and approve the financial proposal.

The state has assign the following roles and functions to BRP and CRP:

1. Evaluation of Children Achievement and Attendance:

(a) To know the base line achievement of all children enrolled in Government schools by conducting a test in their respective schools.
(b) Classification of children on the basis of their achievement and prepare a plan with the help of respective teacher(s) to enhance the competency level of children.
(c) To organise remedial coaching for low performance children.
(d) To ensure attendance of all children and prepare a strategy to reduce absenteeism / dropout among children.
(e) To ensure enrolment of all children habitat in the feeder area of the school.

2. Teacher Training:

(a) To provide subject specific on job support to teachers.
(b) To prepare teacher training plan and organise training with support of the master trainer.
(c) Organise one day training in respective Cluster Resource Centre (CRC)

3. Analysis of Educational data and conducting study:

(a) Updating of household data with the help of teachers and VEC members, Anganwari and ECCE instructor.

(b) Analysis of DISE data and discussion /dissemination among the teachers within respective CRC and BRC.

(c) Conduct Research/Action Research in the respective area.

4. Village Education Committee:

(a) To attend the meeting of VEC members and convey the decision of BRC and CRC.

(b) To organise training programme for VEC members.

4.0 SELECTION PROCESS OF BRP AND CRP

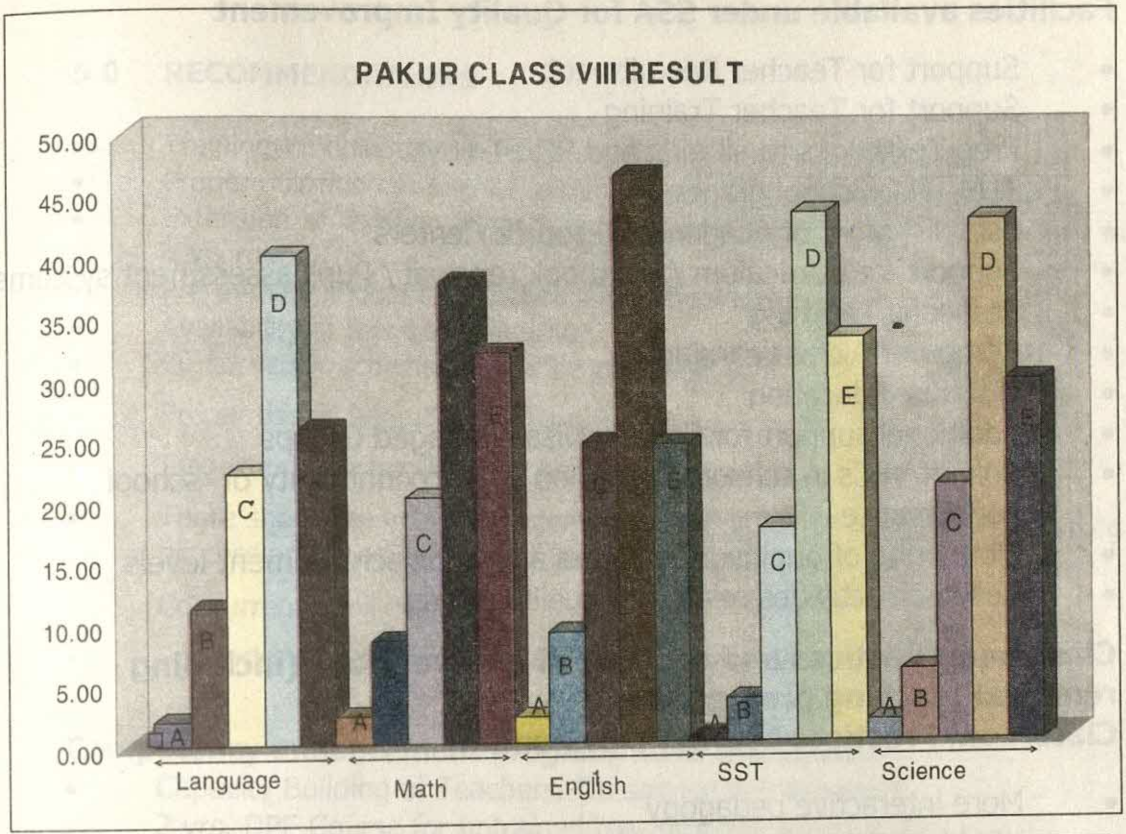
Each district has made open advertisement for selection & BRP and CRP with requisite qualification. Preference will be given to local candidate to ensure their effectiveness.

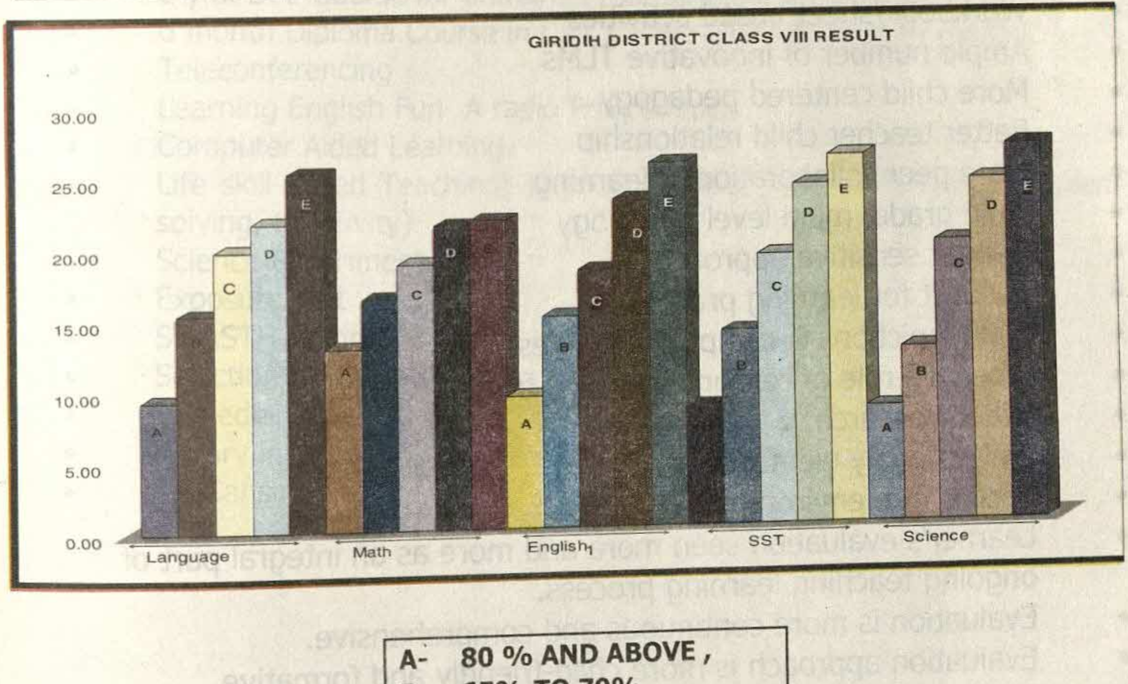
After selection of BRP and CRP, state and district provided training to them on their role and functions. They are functioning under control of Block Education Extension Officer.

For improving the quality of basic and elementary education in the State, the BRCs and the CRCs are playing an important role. Through them, it is endeavoured to provide reasonable level of skill to the teachers to impart knowledge to school children. There have been considerable efforts in providing training to teachers and in the development of teaching learning material.

Through school visits and interactions with the district level and block level functionaries of the Education Department, we can safely say that there has been a positive impact of the BRCs and the CRCs on the competence of the teachers and the students in the State. The BRPs and the CRPs have started getting into the groove and we have enough reasons to believe that things are going to improve in the future.

We have tried to show the impact of BRPs and CRPs through analyzing the class VIII children achievement in 2005-06 of Pakur and Giridih districts.





A- 80 % AND ABOVE ,
B- 65% TO 79%
C- 50% TO 64%
D- 35% TO 49%
E- BELOW 35%

Facilities available under SSA for Quality Improvement

- Support for Teacher Recruitment
- Support for Teacher Training
- Free Textbooks to all girls and SC/ST boys.
- TLM/ TLE/School grants
- Establishment of Academic Resource Centers
- Support for Curriculum / Textbook renewal / Pupil assessment systems
- Remedial Teaching
- Computer Aided Learning
- Distance Education
- Additional support for Socially Disadvantaged Groups
- Role of VECs in school supervision and accountability of school performance
- Monitoring of quality parameters and pupil achievement levels
- Research activities related to quality issues.

Classroom practices and contextual interventions (including remedial teaching programmes)

Classroom Practices Learner's Evaluation

- More interactive pedagogy
- Workbook/sheet based activities
- Ample number of innovative TLMs
- More child centered pedagogy
- Better teacher child relationship
- More peer collaboration in learning
- Multi grade, multi level pedagogy
- Gender sensitive approach
- Respect for learning process
- Wall depictions & campus cleanliness
- Proactive role of resource persons from CRC/BRC
- Action research
- Child friendly elements
- Barrier free environment
- Learner's evaluation seen more and more as an integral part of ongoing teaching learning process.
- Evaluation is more continuous and comprehensive.
- Evaluation approach is more child-friendly and formative.
- Report cards circulated among parents for feedback and follow-up.
- Diagnosis and remedial measures for ensuring universal quality learning.
- Innovative and organised strategies.

5.0 RECOMMENDATIONS

- Training/Workshops to be organized for VECs to develop vision.
- Proper utilization of science and mathematics tools available in schools.
- Extension of existing infrastructure to ensure the use of TLE & TLM in class room.
- Pre primary should be attached with school campus.
- Availability of text-books in time.
- Co-curricular activities should be improved.
- Proper use of Remedial teaching.
- Inspection of schools should be a regular event
- There should be active participation of BRPs/CRPs in the teaching-learning process and conduct research /action research.
- Concurrent pupil evaluation
- Support institution including DIET should be making functional.

Competency Enhancement Programme in the State

- Capacity Building of Teachers. (In-service & Untrained)
- 2 yrs. DPE Course for untrained teachers through IGNOU.
- 6 month Diploma Course in CIG, CTPM, CTE etc. through IGNOU.
- Teleconferencing
- Learning English Fun- A radio Programme.
- Computer Aided Learning.
- Life skill based Teaching(Keen observation, Critical thinking, Problem solving, Creativity)
- Science Experiment
- Exposure visit
- SWASTH Program
- Selection of BRP's & CRP's
- Remedial Teaching
- Library in Schools
- Bal Sansad

"QUALITY TRACKING" –A DISTRICT INITIATIVE FOR ENSURING QUALITY EDUCATION IN ELEMENTARY SCHOOLS - AN IMPACT STUDY

C. Babu

1.0 INTRODUCTION

The achievement of Kerala in the areas of literacy and school education is unique among other Indian states. The literacy rate of Kerala is 90.6% against the all India average of 52.2%. Development of school education is another noteworthy achievement, already registering Education For All goals of univerisal enrolment and retention. The other features of schooling in Kerala context are availability of basic infrastructure facilities, better stock of teaching -learning materials, qualified and trained teachers majority of them females, involvement of parents and community in the schooling of student etc.

With these entire favourable environment one would normally expect a higher quality elementary schooling in the state. However, subsequent studies focusing on learner achievement have pointed out that the learner achievement in elementary stage is rather low in Kerala when compared with other Indian states (N.V Varghese: NCERT-1994)

The inception of new curriculum in Kerala paved way for changes in the selection and use of teaching learning methods, the role of teacher in the learning process, the relationship between teacher and children in this process, the learning environment and use of teaching - learning materials. For realising these variety of interventions, new support structures and systems like BRCs and CRCs were identified and deployed in the elementary education sector through DPEP, SSA and other programmes.

Nevertheless the recent studies conducted by NCERT and other organizations revealed that the students in Kerala are still showing low performance in different subjects especially Language, Mathematics and Basic Science. The achievement of student in these subjects has not increased the expected level. (Achievement survey: NCERT - 2005)

It is in this situation, DIET Thrissur in Kerala has initiated an intervention of developing and implementing a Quality Package "Quality Tracking " in selected schools with the support of SSA functionaries in the District .

1.1 Definition of Key Term

Quality Tracking : Quality Tracking is a package for improving the quality dimensions of school education particularly the achievement of students in different subjects and strengthening the school level support structures like School Resource Group (SRG), Mother PTA (MPTA) and Local Resource Group (LRG).

2.0 OBJECTIVES

1 The primary objectives of the study are to assess and analyse the present status quo of student achievement in different subjects and to improve the level of achievement at the mastery level.

2 The secondary objectives of the study are:

A. To assess the existing situations of classroom process, student achievement and school level support structures.

B To analyse the existing situations and to find out the actual problems in connection with student achievement.

C To develop and implement a comprehensive quality package (Quality - Tracking).

D To assess the impact of the implementation of the Quality package in terms of students achievement and school level support

3.0 DESIGN OF THE STUDY

The present study is based on the empirical evidence generated from the sample school selected from 17 BRCs, of Thrissur District. The terms of reference and areas of the study were identified and finalised through in-depth discussions with the educational officers and SSA functionaries of the district. The categories of schools were selected through stratified sampling techniques.
The categories of schools included in the study are.

1. Govt., and aided schools
2. Rural and urban schools.
3. Schools which have L.P section only.
4. Schools which have L.P. and UP sections.

4.0 SAMPLE OF THE STUDY

The sample of the study was selected from all the 17 BRCs in the district,34 schools were selected for the study. The schools were equally distributed to 17 BRCs, The selection was done by using stratified sampling techniques. The details of the sample are given in the following table.

Sample	Nos. in a BRCs	No, of BRCs	Total
L.P. School	1	17	17
U.P. School	1	17	17
Students studying in std VII	-	-	900
Students studying in std IV	-	-	975

Finally, 34 schools and 1875 students (900 students of std VII and 975 student of std IV were selected as sample of the study.

5.0 METHODOLOGY

Since the study uses survey approach, the tools used for it were Achievement Tests in Mathematics, Basic Science and Regional Language, Quality Package, Interview Schedule and Check List for Desk Analysis of school records.

5.1 Tools and Techniques

The tools and techniques of the study were prepared during 23-25 of July 2006 in a workshop held at DIET, Thrissur. The participants of the workshop were selected DIET faculty members, BRC Trainers and teachers of standard VII and IV in the district. The following tools for the study were developed in the workshop.

A. Achievement Test

The Achievement Test was intended to collect data regarding the students' achievement in the essential competency areas of Mathematics, Basic Science and Language in standard VII and Mathematics and Language in standard IV.

B. Rating Scale for Desk Analysis

The rating scale was intended to gather data regarding the academic activities of schools by examining the school records. The items in the tool consist of the areas such as: Teaching Manual, SRG Manual, PTA minutes and visitors Diary (On-Site-Support).

C. Interview Schedule

Different unstructured interview schedule were developed for collecting opinion regarding the school level activities. Besides, the School Level Formats (SLF) developed by NCERT were also used for collecting data regarding the achievement level of students.

Development of Quality Package (Quality - Tracking)

The Quality Package was developed in the second phase of the investigation. It is a total school development plan emphasizing the academic achievement of essential competencies of Mathematics, Basic Science and Language in standard VII and IV.

Phases of implementation

The study was conducted in the following three phases:

Phase I: Administration of achievement test to all the 900 students of standard VII and 975 students of std IV for identifying the existing achievement level of student in different competency areas. Preference was given to the higher level competency areas of Mathematics and Basic Science and Language.

After collecting the data the analysis was made on the basis of the objectives of the study.

Phase II: In the second phase the Quality Package was developed giving emphasis to:

i) Remedial activities with time-frame
ii) Co-operative learning strategy
iii) Development of TLM for effective transaction of curriculum-
iv) Multi-level activities for different subjects.
v) Time frame for monitoring, CRC meetings, on-site-support etc.
vi) Self - learning materials in the form of work sheets

Phase III:

In the third phase, the quality package was administered in the schools for 3 months and the post - test of achievement of students was conducted. The results of test were analysed for deriving conclusions. Further the standard of the school level support structure as was also analysed.

Development "Quality Package" - Quality Tracking.

The important objective of the study was to ensure the achievement of essential competencies in Maths, Basic Science and Language among students of standard VII and IV of the sample schools: The development process of package was done on the basis of the identification of the competency areas of the concerned subject in which achievement of student was low when compared to other competency areas. The following competency areas were selected for this purpose.

Mathematics - standard VII

i) Analysis of problems - practical problems
ii) Construction in geometry.
iii) Algebraic and geometric pattern.
iv) Creativity.

Basic Science - standard VII

i) Element of enquiry approach
ii) Process skills development
  - Observation
  - Analysis
  - Generalization
iii) Collection of information and using Resources
iii) Recording / products.

Regional Language - Std. VII

i) Development of discourse forms.
ii) Competence in using discourse forms.
iii) Creative writing.
iv) Recording / products.

Mathematics - Std IV

i) Subtraction.
ii) Patterns.
iii) Multiplication.
iv) Problem analysis - Practical problems in measurements

Regional Language - Std IV

i) Reading - Comprehension
ii) Writing.
iii) Creativity.
iv) Competence in using the discourse form.
v) Recording / Products:

After identifying the different competency areas of the curriculum based on the analysis of achievement of students of the first terminal examination in August 2006, a workshop for developing the package was organized.

The quality package has three parts

The first part of the package consists of the following items:

i) Multilevel activities for students in the form of worksheets
ii) Graded assignment for the students.
iii) Time-frame for teachers for conducting the class room activities.
iv) Teaching - Learning materials for using in the class rooms.

The second part of the package consists of the following aspects:

i) The methodological aspects to be followed in the classrooms.
ii) Details of co-operative learning strategy to the adopted in the class room.
iii) Development of products and keeping records of students regarding projects, assignment etc....

The third part consists of the school level support structure and internal monitoring mechanisms

i) Conducting systematic SRG meeting.
ii) MPTA meeting.
iii) Resource mapping - including Local Resource Group formation.
iv) Monitoring Mechanisms

5.2 Data Analysis and Interpretation

Data collected for the study were analysed according to the objectives of the study. The main areas in which the collected data were the following:

i) Achievement of students in the selected competency area (Pre-test and post-test).

ii) Schools level support structures tile SRG, MPTA and Onsite - support to teachers.

6.0 ACHIEVEMENT OF STUDENTS IN THE SUBJECT SELECTED FOR THE STUDY

The data regarding the achievement level of students in std VII and IV in the selected subject were collected from the scores of achievement tests (Pre-tests, and post-test conducted). The analysis reveals the following:

i) Comparison of Mean Scores of student in std VII - subject wise (Pre- test and post test).

Table:1

N: 900

Sl.	Subjects	Pre-Test Mean score	Post-Test Mean sore	Mean Differences
1	Mathematics	52.8	65.5	12.7
2	Basic Service	63.5	74,5	10.0
3	Language	59.5	70.0	10.5

Table 1 reveals that the level of achievement of students has increased after implementing the package significantly i.e. an increase of 12,7 in mathematics 10 in Basic science and 10.5 in Language.

ii) Comparison of percentile of achievement at mastery level in std VII - subject use. Pre - Test and Post Test)

Table: 2

N: 900

Sl.No	Subject	Pre-Test (Mastery level)		Post-Test (Mastery level)		Difference
1	Mathematics	200	22.2%	285	31,7%	85 9.5%
2	Basic Science	325	36 %	410	45.5%	85 9.5%
3	Language	310	34.%	340	37.8%	30 3.4%

The table reveals that an increase of 9.5% of student has been observed in attaining the competencies of mathematics at the mastery level after the implementation of the package. Also 9.5% increase in Basic Science and 3.4% increase in regional Languages were also observed.

iii) Comparison of Mean score of students in std IV - subject wise (Pre - Test and Post Test)

Table: 3.

No. 975

Sl.No	Subject	Pre-Test Mean Score	Post-Test Mean Score	Mean Difference
1	Mathematics	74.5	83.0	8.5
2	Language	68.4	79.5	11.1

The above table reveals considerable increase in the achievement of student of std IV in Maths and Language in the selected competency areas to 8.5 (mean scores) increase in Mathematics and 11.1 (mean scores) in Language.

iv) Comparison of percentiles of achievement at mastery level in std IV - subject wise (Pre-Test and Post Test)

Table: 4

N: 975

Sl.No	Subject	Pre-Test		Post-Test		Difference	
1	Mathematics	630	64.6	745	76.4	115	11.8
2	Language	580	59.5	700	71.8	120	12.3

The table reveals that the level of achievement of students in the selected competency areas has been comparatively higher than the students in std. VII. Considerable increase in the number of students at Mastery level achievement has also been observed.

7.0 SCHOOL LEVEL SUPPORT STRUCTURE LIKE SCHOOL RESOURCE GROUP (SRG), MPTA AND O-SITE- SUPPORT

The analysis of data collected in respect of the School level support structure like SRG, MPTA and OSS reveals the following:

i) School Resource Group (SRG)

An increase of 9% has been observed in the number of SRG meetings during the implementation period of the quality package. In 32 schools (94%) systematic SRG meetings with pre-determined academic agenda and discussion were observed.

ii) MPTA/CPTA.

The study revealed that in all 34 schools CPTA / MPTA is functioning. Out of 34 schools, 85% of schools are organising CPTA in every month for academic discussion and 80% of schools have strong structured CPTA / MPTA.

iii) On - Site Support (OSS)

The analysis of data reveals that the frequency of visits of SSA Trainers and DIET faculty members have increased considerably for academic support for the teachers during the period of implementation of the quality package.

8.0 FINDINGS OF THE STUDY

From the analysis and interpretations of data relating to students achievement and school level support structure after implementing the "Quality Package for 3 months in the class rooms, the study reveals the following major findings.

1.1 Students achievement of competencies in different subjects

i) The study reveals that considerable increase has been observed in students achievement in Mathematics, Basic Science and Language. An increase of 9.5 percent in achievement at mastery level of selected competencies observed Mathematics and 9.5 % in Basic Science and 3.4% in Language of std VII students.

ii) After the implementation of Quality package considerable difference in the mean scores was also observed in the achievement of competencies in different subjects.

iii) Majority of the students participated actively in class room activities self learning exercises and graded assignment tasks

iv) It is revealed that majority of he std VII students of the selected schools shared their ideas, initiated leadership roles.

v) It is observed that a variety of products were developed in the classroom as a part of teaching - learning process.

8.2 Teacher Capacity

i) Majority of the teachers (72% of the teachers selected) opined that their capacity for deriving multi-level activities, graded assignment and development of TLM, has been increased considerably.

ii) The study found that through implementing the package the capacity of teachers in adopting co-operative learning strategies in the class rooms has been increased

iii) Majority of the teachers opined that the quality package was a support material for them in planning and implementing class room activities.

8.3 The major findings relating to school level support structures

i) The quality of SRG meetings have increased. It is noteworthy that majority of then SRG meeting (68%) were organized systematically with sharing students achievement and development of TLM, etc.

ii) 5 class PTA meeting were held during the 3 months period of implementation of the Quality Package. Many of these meetings were organized systematically and it is found that the teachers took leadership role in academic discussion in the CPTA meetings.

iii) The study revealed an increase in the frequency of visits by Resource persons and SSA Trainers in the selected schools and giving support to teachers.

iv) The study also revealed that the selected schools initiated Local Resource mapping and utilizing the local resources at the maximum.

9.0 IMPLICATIONS OF THE STUDY

The major implication of the study is that through implementing the "quality package" in the schools the school system as a whole began to work systematically for the Total Development of the institution.

As a support material teachers and students used this material affectively for their own self-development. Such type of materials ca be developed and used in transaction of curricular objective of all subject in all students which will ensure the achievement of student at mastery level in different competency areas.

10.0 LIMITATIONS OF THE STUDY

i) The study was confined to selected competency areas in Mathematics, Basic Science and Language only.

ii) The Quality Package was developed for selected subjects and implemented only in selected schools of the district.

11.0 REFERENCE

- Chomsky, N. (1972)"Language and Mind"
- CIEFEL, Hyderabad (1997)"Guidelines for Learning package Development"
- Driver. R. and Bills B (1986) "Students thinking and learning of service" A constructivist view"
- Michool Littledyk and Laurae Huxfoard;(1998)" Teaching The Primary curriculum for constructive Learning.
- NCERT, (2005)"Report of the Achievement survey in elementary schools.
- Liebeck, P (1984) "How children Learn Mathematics"
- Luria A.R. (1983)" The development of writing in the child".
- Skemp, R (1979) :Mathematics in the Primary School.

DIAGNOSIS AND REMEDIATION OF LANGUAGE DISABILITIES OF PRIMARY SCHOOL CHILDREN

Arvind Sharma and D. Venkateshwarlu

ABSTRACT

Key words: Learning Disability, Language Disabled, Remediation.

With the growing awareness of children with specific learning disabilities the primary task confronting a teacher is successfully identifying and assessing specific learning disabilities and providing remedial measures to the children in accordance to their specific problem. One has to look out for paradoxes a child who is unable to read but good at arithmetic, one whose spellings are confusing but who is up-to-date and informed about current events, science and history.

The general education framework has a system of automatic promotion to next class irrespective of the marks obtained by the student. This leads the child to a class which may be much above his ability level, thus widening the discrepancy between the actual performance of the child and the expected performance of that class. Added to these is the various syllabi system, varied second languages, media of instruction and also a third language to be learnt. With the post school/college education having become so competitive in general, our children with hidden handicap get nowhere in the educational system, thus receiving no attention according to their abilities.

If the purpose of Education is to impart knowledge to learner, the evaluation system should focus on the testing of the knowledge gained. Insisting on written examination, as is the current practice, many a time affects the children with learning disabilities adversely. So, it is vital to recognize a child with specific learning disabilities as early as possible. Since failure in school is likely to have cumulative effects on his progress and thus contribute further to retarded performance. Such a child often develops severe psychological problems, which develop because of his/her inability to cope with school as well as the pressures he/she receives, as he/she is not able to concentrate or work with the group. Therefore, there is an urgent need today to look into the problems of these children and provide remedial measures to ensure normal academic progress.

1.0 INTRODUCTION

The primary task in the classroom is learning. Learning is a step by step, complex interwoven and multi-level process. It comprises of the complex sequential process of input, processing and output. Each of these have several essential components. The impairment or dysfunction of anyone of these, causes problems in learning. These problems have come to be referred to as learning disability.

Presently, more and more schools have children with difficulties in learning. Learning disabilities is a generic term that refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning or numerical abilities. These disorders are intrinsic to the individual presumed to be due to central nervous system dysfunction and may occur concomitantly with other handicapping conditions (e.g. sensory impairment, mental retardation, serious emotional disturbances) or, with extrinsic influences, (e.g. cultural difference, insufficient or inappropriate instructions etc.) but they are not the result of these conditions or influences only.

Generally, a learning disabled's I.Q. ranges from average to gifted. This disability is due to the deficit in the information processing. This is the way of mind, which cannot be cured. Students find ways to cope with their learning problems. We, as researchers can help them by providing some learning and testing accommodations.

Language is the foundation for thinking, learning and communication. We can communicate with others through the language and obtain some knowledge. Language is slippery to define. According to committee on language of the American Speech Language Hearing Association (1983): " Language is a complex and dynamic system of conventional symbols that is used in various modes for thought and communication. Contemporary views of human language hold that (i) language evolves within specific historical, social and cultural contexts; (ii) language, as rule governed behaviours is described by at least five parameters i.e. phonologic. morphologic, syntactic, semantic and pragmatic; (iii) language learning and use are determined by the interaction of biological, cognitive, psychosocial, and environmental factors (iv) effective use of language for communication requires a broad understanding of human interaction including such associated factors as nonverbal cues, motivation and socio cultural roles."

Language provides a meaningful way of representing ideas about the world to others who speak the same language. It is vehicle for communication or participation in conversation (Loban, 1979). In other words, " Language is a social tool" used in communication interactions (McLean & Snyder Mclean, 1998).

Implicit in the use of language is the assumption that the user is communicating meanings with some one else. Thus, language can be viewed as a dynamic force or process rather than as a product (Muma, 1978). It is a socially shared code that use a conventional system of arbitary symbols to represent ideas about the world that are meaningful to others who know the same code. Language is a code in the respect that it is not a direct representation of the world, as a drawing or a photograph might be. It is a socially shared code in the respect that, to qualify as a language, a group of people must know the same code and use the same conventions or rules to generate and to understand the symbols of the language, Language uses arbitrary symbols in the respect that words and their components and combinations generally bear no physical resemblance to the concepts they represent.

The association of arbitrary symbols and abstract meaning is particularly difficult for some children with language disorders. For some children, the problem seems to be confined primarily to attaching meaning to bound morphemes, like plural and possessive endings, that are tied closely to the form of language. Other than arbitrary, such morphemes seem to be expendable for others, the problem extends to content vocabulary representing things in the world.

Language disability may be in the form of receptive and expressive language. The person may feel difficulty in one or in both because of he cannot grasp any thing and or express well. Language problems involve difficulties in understanding, managing, or expressing the language symbols and rules in communication. These language difficulties are further complicated by speech problems as speech & language are closely related.

A language disorder is much broader, encompassing disorder of the entire spectrum of communication & verbal behaviour, including such problems as delayed speech, disorders of vocabulary, word meaning, or concept formation, the misapplication of grammatical rules and poor language comprehension.

Hence, individuals with language disorders need to be identified early and be provided the remedy adequately, so that they can achieve well in academics and can contribute significantly in the growth and development of the society and the nation at large. The present study was undertaken with a view to diagnose the children with language disabilities at primary level and plan out remedial programmes for different types of language disabilities.

2.0 OBJECTIVES

The study was carried out with the following main objectives:

- To diagnose the children with language disabilities at primary level studying in III & IV standards.
- To study the nature of language disabilities of learning disabled.
- To plan out remedial programmes for different types of language disabilities.
- To study the effect of remediation on achievement of boys and girls with language disabilities.
- To study the effect of remediation on achievement of rural and urban children with language disabilities.

3.0 HYPOTHESES

The present study was proposed to verify the following hypotheses:

i) There will be no significant difference in the achievement of children with language disabilities taught through conventional methods and remedial method.

ii) There will be no significant difference in the achievement of language disabled boys and girls with regard to effect of remediation.

iii) There will be no significant difference in the achievement between urban and rural language disabled children with regard to effect of remediation.

iv) There will be no interaction between two independent variables namely type of treatment and gender.

v) There will be no interaction between two independent variable namely type of treatment and locality.

vi) There will be no interaction between two independent variable namely gender and locality of language disabled.

vii) There will be interaction between three independent variables namely type of treatment, gender and locality of the language disabilities.

4.0 METHODOLOGY

Sample

Sample for the present study was obtained from different schools of Bareilly city of Uttar pradesh studying in IIIrd and IVth standards. In order to achieve the objectives and verify the hypotheses of the study, the schools were selected randomly following either CBSE, ICSE or UP board syllabus and located in urban, semiurban and rural areas of Bareilly city. The following table I given below provides an idea about the distribution of the schools.

Table I: Details of the Distribution of the schools and Children

S.No.	Name of the school	Board	Locality	No. of Children Screened		No. of Selected Children	
				III	IV	III	IV
1.	T.K. I. College	U.P.	Rural	12	16	02	04
2.	Delhi Public school	CBSE	Semi Urban	18	14	03	01
3.	G.K. City Montesorri School	CBSE	Rural	50	55	09	08
4.	Air Force Central School	CBSE	Urban	80	78	08	06
5.	Green field public school	ICSE	Urban	20	14	02	02
6.	Gulabrai Montessori school	CBSE	Urban	40	50	06	03
7.	Seward Public School	CBSE	Urban	10	08	03	02
8.	Hartmann School	ICSE	Urban	40	50	06	05
9.	J.K. City Montessori School	U.P.	Semi Urban	55	45	07	06
10.	G.P.M. School	ICSE	Urban	46	39	09	04
	Total			**369**	**371**	**55**	**41**

All the children were administered tests for identification of language disabilities. Out of 740 children only 96 were selected on the basis of specific criteria adopted for identification of language disability. The details are given in the next section. Among 96 children, 52 were boys and the remaining 44 were girls.

Identification

A child who has normal sensory, motor abilities and has adequate intellectual abilities and socio-cultural environment but does not seem to learn academics or shows discrepancy between the actual and expected achievement in one or more of the academic areas can be suspected as having learning disability by the teacher. But the discrepancy alone is not sufficient to call a person as learning disabled. To confirm the child's problem various techniques can be used. In the present study the identification of language disabled was done with the following tests:

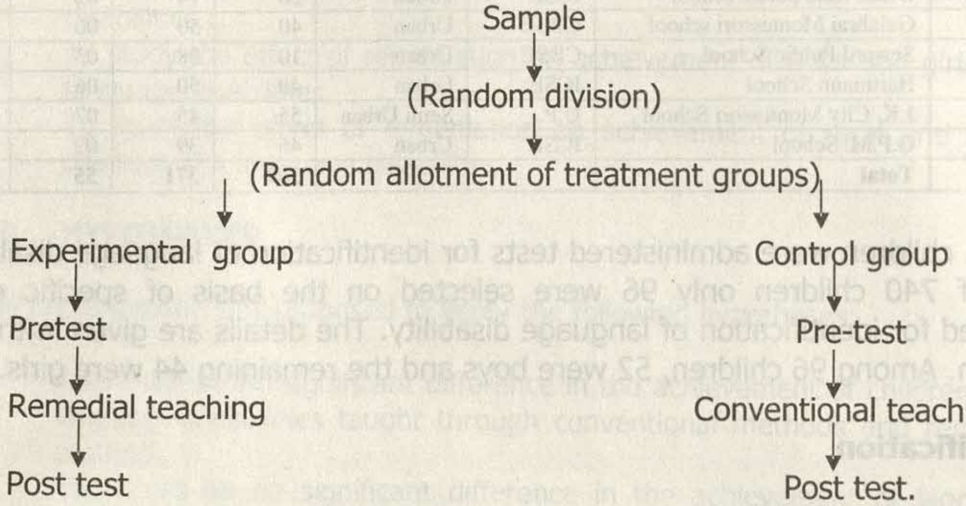
i) Behaviour check list for screening the of learning disabled children
ii) Raven's Standard Progressive Matrices
iii) Diagnostic Test of Learning disability (DTLD)
IV) Grade Level Assessment Device (GLAD)

Design of the Study

The study was carried out on children identified as language disabled and studying in IIIrd & IVth standards. The selected children were randomly divided into two equal groups out of the two groups; one was randomly categorised as to experimental group and the other as the control group.

The experimental group language disabled children were administered tests to find out the strengths and weaknesses while solving different types of tasks

Depending upon the type and nature of mistakes remedial treatment was provided, where as the control group language disabled children were as usual exposed to conventional methods. After completion of the remedial treatment to experimental group language disabled children, both the groups were administered a standardized grade level assessment test in language, in which they are studying as the post test. Scores on the pre-test and post test of the both the groups were compared to see the effect of remedial treatment provided to the experimental group. The scheme of the study followed is presented as under:



The pre-test and post test scores were further analyzed to study the effect of gender, locality on achievement of language disabled and intra and Inter factors. The complete design of the study is shown below-

Remedial Treatment				*Conventional Treatment*			
Boys		*Girls*		*Boys*		*Girls*	
U	*R*	*U*	*R*	*U*	*R*	*U*	*R*

In the above design the independent variables are type of treatment, gender and locality. The dependent variable is achievement of language disabled.

The process which has been discussed above enabled the researcher to see the effect of remediation on achievement of language disabled. Thus, the researcher had a 2 x 2 x 2 factorial experiment with a randomized group design which was used to analyze the effect of remediation and double and triple interactional effects. To study intra and inter factors t-values were computed.

Types of Errors

The investigator had listed summary of the student's difficulties to get the cluster of disabilities in each area. The nature of errors committed were collected, arranged and analyzed.

The types of mistakes made by language disabled in the present study on various tests are basically related to Receptive language, Expressive language, Word recognition and comprehension.

Tools for Remediations

In the present study, individual training programme (ITP), Fernald method, Glass Analysis and many techniques like configuration, scramble and unscramble, missing letters, Dot-to-Dot, words searches and puzzles, syllabication and structural analysis, were used as a remedial methods.

Procedure of Remediation

Remedial treatment was provided to children individually and sometimes in a group based on the types of mistakes on the standardized tests. The remedial programs contained procedures for remediating the difficulties developed by the children. The remedial programs were mainly in the areas of receptive and expressive language. The other difficulty areas covered include word recognition, comprehension & word articulation.

Remediation was provided to children in separate class rooms four times a week- Remediation was completed in a total of 30 sessions of 45 minutes each.

Data Analysis

Pre-test and Post-test scores were analyzed to see the effect of remediation on achievement of language disabled. The investigator had employed 2x2x2 ANOVA where in double and triple interactional effects were also seen. The researcher also studied the intra and inter factors and the effect of remediation or gender and locality by computing t-ratios.

5.0 FINDINGS

i) There is a significant difference between the mean scores of achievement of two treatment groups. This finding infers that remedial treatment methods were superior to conventional treatment methods.

ii) There is no significant difference between the mean scores of achievement of language disabled boys and girls. This finding infers that language disabled boys do not differ from language disabled girls with regard to achievement in language.

iii) There is no significant difference between the mean scores of achievement of urban and rural language disabled. This finding infers that, urban language disabled do not differ from rural group with regard to achievement in language.

iv) The interaction between type of treatment and gender is found significant. This finding infers that type of treatment and gender had significant effect on the achievement of language disabled.

v) The interaction between type of treatment and locality was found insignificant. This finding infers that type of treatment and gender will not have any significant effect on the achievement of language disabled.

vi) The interaction between gender and locality was found insignificant. This finding infers that gender and locality will not have any significant effect on the achievement of language disabled.

vii) The interaction between type of treatment, gender and locality was found insignificant. This finding infers that type of treatment, gender and locality do not have any significant effect on the achievement of language disabled.

6.0 IMPLICATIONS

i) Since language disabled find it very difficult to learn reading and writing even in one language, "three language formula i.e. mother tongue, National language (Hindi) and international language (English) which is compulsory in schools should not be insisted on them. They should be allowed to study all the subjects through mother tongue; in languages other than mother tongue should be introduced at later years of schooling and even then they should be considered for grade promotion.

ii) Because of language disability there is every possibility for language disabled to lag behind in other academic subjects also. As a result there is a considerable gap in the amount of knowledge between language disabled and normal readers. In order to minimise such a gap during the lower primary level, i.e. grade I to Vth, considerable time should be devoted to improve reading and writing among them.

iii) Instead of prescribing text books for science and social sciences, children of primary schools should acquire the above knowledge through multi-media experience and active participation.

iv) The mastery of any academic subject should be tested orally rather than through writing at the lower primary level. Thus the load on the language disabled can be reduced. As a consequence they can be easily motivated for academic achievement.

v) Since children with marked difference in learning are admitted to the same school, the teacher should select such methods of teaching reading which takes into consideration the differential ability among children to acquire the skills of language disabled.

vi) The programme books to teach reading and writing should be supplemented to the prescribed textbooks for all the children of grade-1. These books with instructions may guide not only teachers but also parents, so that they can supplement the efforts made at schools in enabling their children to master reading and writing skills.

vii) A survey may be conducted of schools opting for remedial strategies in teaching language for language disabled.

viii) The remedial programme developed for language disabled is helpful in improving reading performance among other categories like educable mentally retarded slow learners, socially disadvantaged and emotionally disturbed.

7.0 CONCLUSION

Research on learning and teaching are on the threshold of providing the kind of knowledge that could lead to real advances in the area of language disability. As pointed out rightly by Wallace and Mc Louglin (1975) the trend in assessment is to be more preventive than totally remedial, more predictive than demonstrated and more developmental than crisis. Therefore early identification, diagnosis and educational intervention are very crucial for children with language disabilities.

The study has been conducted on language disabilities of primary level children keeping in view the importance of language in any school subject and also the use of language in every walk of life and importance of language in various competitive examinations. The subject matter of the present study is important to try to remediate the language disabilities of children. The remedial programme based on proper diagnosis of errors is essential for remediation of language disabilities of children.

After the remediation there is considerable improvement in the accuracy of letter and word recognition, level of word synthesis and reduction in the reading errors. Thoughtful consideration of organisational patterns in the intervention models inevitably leads to the conclusion that there is no single methods that can be regarded as suitable for every child in the vast heterogeneous group of language disabled.

8.0 SUGGESTIONS

i) The studies similar to the present one can be replicated covering larger content area and methodological sophistication.

ii) Studies can be extended to cover secondary, higher secondary and adult language disabled.

iii) Attempts to identify the causes of language disability should continue with vigour.

iv) Remedial methods might have a positive role in the development of certain affective abilities of students also. Further research work could investigate into the relative influence of remediation on achievement of language disabled.

v) The role of computers and technology must be considered in dealing with the problem of language disabled. Research need to be done extensively in this area. Today even though a number of computer software in language have been developed it is not very clear about the role of this technology in teaching language to language disabled and its practical implications.

vi) One of the limitations of available research is that it provides a picture of performance at isolated points in time. Available studies are not able to provide a complete picture of how learning occurs in typical classrooms. Research is thus needed that blends the strength of current research with a concern for realities of the classroom and focuses on student learning from instruction over extended period of time.

vii) Apart from deficiency in language, more and more behavioural symptoms which are unique to language disabled children need to be explored.

9.0 REFERENCES

- Learner, J (1993): Learning Disabilities, 6th ed.,Bosten: Hongton miffin.
- Loban, W.D. (1979): The language of elementary school children, NCTE Research report no.1.
- Mclean, J.E. & Snyder-Mclean, L.K. (1998): A transactional approach to early language training. Derivation of a model system, Columbus
- M Uma, J. (1978): Language handbook, concepts; assessment intervention, Englewood clitts, NJ prentice hall.
- Wallace, G., & Mc. Laughlin, J.A. (1975): Learning disability- Concepts and characteristics, Columbus: Merrill.

EFFECTIVENESS OF CLASS III MATHEMATICS TEXT BOOK: A PERCEPTUAL STUDY

L.Sridevi

1.0 INTRODUCTION

Educationists, Psychologists and research workers throughout the world are in search of suitable learning strategies, so that maximum desirable output can be achieved from the educational process.

Education is a process of drawing out the innate abilities by providing full opportunities for the all round development of the personality of the child. Due to the individual difference every child has her/his own unique learning style. Hence common strategy for all children in formal pattern is not desirable as it leads to huge wastage in the process.

Broadly speaking there are three main considerations for which a child is sent to school. Education must contribute towards the acquirement of these values: (i) practical or utilitarian value (ii) disciplinary value (iii) cultural value

The study of mathematics is necessary and helpful in the realization of these values.

Mathematics is a science dealing with number, space, form and time. It is a man-made science. It is the numerical and calculation part of man's life and knowledge. According to various definitions, mathematics is the science of measurement, quantity and magnitude. Mathematics in a strict sense is the abstract science which investigates deductively the conclusions implicit in the elementary conceptions of spatial and numerical relations.

How to teach is a really difficult problem for the teacher. Different methods of teachings have been proposed or propounded by different educational thinkers. The essence of mathematical teaching consists not only in helping the pupils to discover rules, formulas etc., but also remember and readily apply them whenever required. For this the pupils have to be provided with a record of class work and also set of examples for practice. This record can be maintained by using a good text book which saves the time of the teacher as well as of the taught.

- It is probably the cheapest and most reliable source of information. It serves as a reference book for the teacher as well.

- It is a concise source of material for reviews. It enables the pupils to acquire the needed information speedily. At the revision stage, with the text-book at his disposal, the student can work independently of the teacher.
- It helps the students to understand things completely at home from the text-books, even if on certain occasions class work brings only partial understanding.
- Home work and assignment work can easily be given from the text-book.
- A good text-book furnishes a large collection of well-selected and graded exercises in the teaching of mathematics. After the pupils have learnt a certain new rule or principle, the pages of the text-book may be referred to for application of the rule and homework.
- In lower classes, text-books with coloured illustrations provide an incentive to learning and they provide attraction for the young learner. That is why, a text-book for every child has become an essential equipment.
- It is a reliable source for self study and preparation for examination.
- The text book is valuable only when it is used properly. It is means and not an end in itself. Every text book can't be a good text book unless it has some essentials.
- It should have the necessary external qualities i.e., its get-up; paper and printing, etc., should be good.
- It should be well illustrated. There should be diagrams and sketches at appropriate situations. Its use should necessitate the use of other audio-visual aids.
- The language used should be simple and clear.
- It should provide sufficient material to motivate the students to solve problems. The problems should be from everyday life.
- To avoid spoon-feeding, there should not be too many solved examples. The students should get adequate opportunity of learning through initiative and independent efforts.
- It should be up to date as regards the subject matter.
- There should be sequence and consistency in the organisation of the subject matter.
- The symbols and terms used must be those which are popular so that there may be no confusion. All new terms should be clearly and accurately defined.
- There should also be a few difficult exercises to challenge the most intelligent students.
- There should be sufficient provision for practice and review. It should meet demands of students in ability and interests.
- The style of writing should be interesting and comprehensible.
- There should be suggestions to improve study habits.

- It should offer detailed suggestions for correlation, project work, assignment work and field work.
- It should conform to the recommendations of important committees.
- It should satisfy the demands of examination also.
- It is very appropriate that N.P.E., 1986 rightly emphasized on Child Centric Education, activity based process. But this is a challenging task, so to meet this challenge necessary steps are to be taken by introducing important strategies in teaching implicating learning process that is to train to acquire knowledge by play way joyful techniques like Stories, Games, Puzzles and Project works etc.

The Government of A.P. had implemented the Spiral and reinforcement approach by joyful learning in III Class New Mathematics Text Book. Hence the Investigator / Researcher had selected this study to know whether it substantially meets the requirements and whether it is of greater use for teacher and taught.

1.1 Purpose of Study

Primary Education becomes crucial and foundation stone for acquisition of knowledge with the help of some pedagogical principles like learning by doing, using local environment cooperative learning, joyful learning, allowing child to move with their own pace and creating an interesting classroom through environment spiral approach which in turn reinforces the concepts underlying the text books.

Based on the underlying principle stated above Government of Andhra Pradesh had introduced New Mathematics Text Book in novel and experimental style. The child is active by nature and will participate by self learning and teacher should take into account the child basic skills, competencies, abilities and plan for creative activities that enrich the experience of the children.

Thus the main purpose of the study is to find out whether the III Class New Text Book is feasible to implement those strategies in our existing class room's situations effectively or not.

1.2 Significance

Almost every where in Visakha District New III Class Mathematics Text Books has been introduced which is based on novel, experimental approach and which pays much attention to the teaching learning processes.

S.C.E.R.T. framers stress on child friendly strategies, stress free and burdenless syllabus. Play way, joyful, stories, puzzles etc., can stimulate the children for better learning in achieving the minimum levels of learning in Maths. So the most significant aspect of this study is to analyze the text book for joyful, interesting and satisfying learning activity.

1.3 Importance

The major objective of teaching primary mathematics is to enable the children to inculcate interest, logical and rational thinking, speed and accuracy, problem solving and real life application etc. So the teacher with the help of text books and TLM develops basic skills, promotes mathematical concept and competencies. It is, therefore, very important to know the effectiveness of III Class book to identify the learning gaps, needs of the students by small scale study and it is also useful to render suggestions to the government for further implications of the text books.

2.0 PROBLEM

Statement of the Problem: The Effectiveness of III Class Mathematics Text Book: A Perceptual Study.

Defining the Problem: one of the major objectives of teaching primary mathematics is to enable children think logically, rationally, analytically and to solve speedily and in natural meaningful situations with stories, puzzles, games and project work activities. Naturally interest, logical thinking, estimation, analysis, problem solving, real life application will be promoted among the children.

The government of A.P. had framed a novel, experimental mathematics text book based on learning process after sample test and collection of opinions from various communities or agencies. It consists of spiral approach which reinforces the concept. The present study was undertaken to collect the opinions from III class teachers and students, and parents about the effectiveness of III class mathematics text book in teaching learning process.

2.1 Aim of the Study

- to analyse the opinions of the teachers, students and parents about the effectiveness of III class new mathematics text book in teaching learning process.
- to give suggestions to the Government to rectify the draw backs in framing text book.

2.2 Specific Objectives of the Study

- to know whether the activities like stories, games, puzzles and project work activities planned and suggested in III class mathematics text book for achieving the minimum levels of learning among the III class students are suitable to the levels of the students or not.
- to know whether the topics in the new mathematics text book are suitable for the teachers in teaching process.
- to know the opinions of the students and parents about the learning activities in the new mathematics text book.

2.3 Scope and Limitations

- The study was confined to 50 schools in Visakha District selecting 20 from Urban, 20 from Rural and 10 from Tribal area.
- The study was limited in collecting the opinions of the III Class teachers, students and parents with mathematical knowledge.

2.4 Hypothesis

Class III new mathematics text book will be easier and useful for the teachers in administrating and pupils in performing the activities to students.
Research Questions:

- Are the playway activities like games, puzzles, stories and project works suitable for achieving MLL's?
- Are the teachers able to teach the concepts easily?
- Are the students able to do the activities easily and joyfully.

3.0 REVIEW OF THE RELATED LITERATURE

- National Policy of Education (1986) gave due importance to child centered education. On the basis of a good number of symposium, Dr. D.S. Kothari emphasized "India should move from Information Centered Education to Child Centered Education because the very survival of humanity in the focus on Child Centered Education".
- In 1990-91 Dr. Sharma of Visakha District conducted a study to investigate the effectiveness of activity based approach in teaching of primary school subjects and found the average level of the effective use is very high.
- In 1991-92, Narasimha Murthy in the study: "Effective in teaching effectiveness of learner centered approach in 2 schools of Tumkur" learner centred approach effective in teaching.

4.0 PROCEDURE

Method

The researcher used Small Scale Qualitative Survey technique as the method of research.

Sample

The researcher selected 20 schools from urban, 20 schools from rural and 10 schools from tribal area of the Visakha District.

Tools of the Study

Tools were developed in accordance with the objectives of the study. Three Questionnaires were designed for the collection of data from the respective class teachers, students and the parents. A LIKERT Scale with three-point question the items was framed for teachers. With regard to collection of data from the students an INTERVIEW scale was designed and also a MATRIX was used. The researcher also developed an observation schedule for class room observation purposes.

A questionnaire was developed exclusively for parents by using 'Yes' or 'No' type question items for the collection of data.

Administration of the Tools

The investigator administered the tools on the selected samples of teachers, students and parents.

Collection of Data

The investigator personally collected data from all the respondents for triangulation purpose. The data collected with the help of three tools: Questionnaires, interviews and observations was tabulated for analysis.

Analysis of data and findings

The investigator analyzed the data collected with the help of appropriate statistical techniques. On the basis of the analysis of the data, the findings pertaining to teachers, students and parents are presented as under:

5.0 TEACHERS

- Majority of the teachers of all areas, expressed positively and significantly on the Cover Design. It was suggested that eye catching colourful pictures of games.
- Majority of the teachers felt there is a general bias shown in the pictures. In future, equal importance should be given in printing pictures.
- Majority of the teachers found the printing attractive and suggested for spacing between two activities.
- Majority of the teachers felt that the pictures are useful in understanding the activities. More colourful pictures may be helpful.
- Majority of the teachers opinioned that activities be framed situationally and sequentially to develop mathematical competencies. The reinforcement of competencies has taken place due to spiral approach.
- Majority of the teachers pointed out that activities like puzzles, stories, games, project work framed for promoting problem solving, logical thinking, estimation etc., are according to the levels of the students.
- Simple, short and easy instructions are suggested in some topics.
- Majority of the teachers felt that activities are suitable for the students which have applicability in real life situations.
- Working sums on known and real life situations need to be added.
- Drawing skills are up to the levels of the children. But much more are required.
- Majority of the teachers felt that competency analysis of every topic is suitable to the level of the children. However, much more clarification is needed.
- Majority of the teachers felt that project works are more useful for preparing TLM and reinforcing of competencies.
- Project works in pair work and group work should be introduced. Teacher's guidance and motivation is suggested.
- Majority of the teachers expressed that the stories, puzzles, games, project work used to promote numerical abilities had been dealt situationally in playful manner.
- Majority of the teachers opinioned that the Language used is simple and suggested for simple and short sentences in puzzles and stories.
- Majority of the teachers felt that equal weightage be given to all the competencies. Working sums on fractions and money are should be added.
- Majority of the teachers felt that the instructions given are useful.
- Majority of the teachers expressed that activities promoted self learning but some are not suitable for low achievers.
- Tribal Teachers felt the difficulty in teaching 'New Mathematics Book' and thus orientation must be given to the teachers.

- Majority of the teachers opinioned that New Mathematics Text Book is feasible and effective compared to the old book.
- Majority of the teachers opinioned that New Mathematics Text Book has removed fear and promoted interest of students in the mathematics subject.
- In all tribal areas, teachers strongly agreed that activities promote 'Self Learning'.
- Urban teachers opinioned that pictures are more attractive stories, games, puzzles are very interesting and helpful in the teaching process.
- Rural teachers opinioned that the New Mathematics Text Book is very attractive, effective, useful for teachers and students in teaching learning Process.
- Supply of Text Books in time should be ensured to the students.
- The playway activities are suitable, easy, joyful for the students to perform and teachers are able to teach the concept easily with the help of these activities.
- As per the schedules given to the students of all categories on various concepts of III class New Mathematics textbook, the observations and findings are:
- 83% of the students liked the textbook due to its handy size and attractive colour pictures.
- 77% of the pupils of all areas like the conceptual based situational pictures.
- 63% of the students opinioned the games interesting. Tribal students need more practice in games.
- 68% of the students of all areas including tribal students expressed the stories were very interesting.
- 53% of the students of all areas opinioned the puzzles interesting.
- 45% of the students of all areas expressed that the project work is stimulating. But it was found that they are burden on the low achievers.
- 58% of the students of all areas expressed the learning activities create interest in them and provide opportunity to students for self learning and joyful learning.
- 62% of the students of all areas opinioned that evaluation questions were thought provoking.
- 60% of the student of all areas expressed that reinforcement of learning is taking place due to home work .
- 67% of the students of all areas expressed that the New Maths Test Book is very attractive because of pictures, games and stories.
- 63% of the students of all areas expressed that self learning activities are very useful and helped in self evaluation.
- The students of all areas are able to do the activities easily and joyfully.

6.0 STUDENTS

- As per the students perceptions, lessons with pictures, stories and colour drawings in the lessons 1, 4, 9, 11, 16, 19, 20, 23, 24, 26, 27, 30, 31, 34, are very useful.
- Lessons No. 7 and 10 are difficult. More number of working sums needs to be added.
- Tiger and Goat game, Gunapattam, Cats, How many, Who reaches one, Even number are liked the most
- Geometrical shapes, Drawing Exercises, stories and games are assets of the new textbook.
- Evaluation sheets for every topic are suggested.
- Additions and subtractions are easily done. Multiplications and Divisions need guidance in case of two steps sums.

CLASS ROOM OBSERVATIONS

- In tribal areas topics are covered well in time; II & V periods are remarked for maths in all the areas
- Mathematics corners are observed more in Rural than Urban and areas.
- T.L.M preparation is done in all areas
- Rural teachers had prepared additional T.L.M.
- All areas are using mathematics text books.
- Group work discussions and display of work is observed.
- Project work is recorded properly.
- Friendly atmosphere is more prevalent in Rural and Urban areas than in Tribal areas.

PARENTS

- As per the Observations schedules, the findings are:
- 95% of the parents liked the New Mathematics Book due to its activity based and joyful learning, approach.
- All the parents expressed that the textbook is suitable for children levels of learning.
- 92% of the parents expressed that pictures are suitable for easy understanding of lessons.
- 80% of the parents opinioned that language used in the textbook is simple but there is need of short and simple sentences.
- 83% of the parents expressed that the activities are feasible for self learning.
- 97% of the parents expressed that the new text book is attractive then old text book due to its activity based and joyful learning approach.

- 73% of the parents expressed that they are able to help in Project Work. But parents in tribal areas are unable to help their children due to lack of time, illiteracy and non exposure to latest strategy.
- 75% of the parents expressed that they provide help to children in Home Work. whereas 100% of Tribal parents are unable to help their children in their Home Work. Hence, teachers' help and motivation is needed.
- 70% of the parents expressed that they are supervising the notes.
- 77% of the parents expressed that there is a change in learning mathematics. The children of Urban areas are more exposed in comparison to Rural and Tribal areas.
- Fear of mathematics among the children has decreased. There is less fear among children of areas in comparison to rural and tribal ones.
- As per the comprehensive opinion of all the respondents the New III Class Mathematics Text Book is very useful, attractive and joyful.

7.0 CONCLUSIONS

The researcher inferred that majority of the teachers of all categories expressed their opinions very positively and significantly in all areas of the New Mathematics Text Book that compared to the old Text Book that it is joyful without tears and fears.

It is effective and interesting with play way activities like Games, Puzzles, Stories, Project work etc., which are suitable for achievement of M.L.L.'s .The teachers are able to teach topics easily and joyfully to the pupils to perform activities easily.

Almost all the students revealed that the Pictures, Games, Stories, Puzzles and Project work which existed in the text book are very useful and stimulating.

All the students positively responded towards the New Mathematics text Book and expressed that they are able to do the activities easily and joyfully.

Majority of the children are able to perform four basic Mathematical Operations. Guidance is required in case of two steps sums

Friendly atmosphere in doing Project Work and T.L.M. preparation was observed

Almost all the parents expressed that New III class Mathematics Text Book is very feasible and would be more effective with some more working sums and colour pictures.

8.0 EDUCATIONAL IMPLICATIONS

In the field of Primary Education, Mathematics is playing a vital role because of its prime importance. The mathematics teachers are using as many attractive, useful and applicable approaches in the teaching of Mathematics.

Even then we are finding some backwardness among the students in the Primary operational concepts like Addition, Subtraction, Multiplication and Divisions. It is observed that rate of level of learning, motivation, understanding ability and interest among the children are the major factors in the teaching learning process of Mathematics. On the basis of various factors the Primary Text Books were prepared and Department of Education of Andhra Pradesh had given valuable suggestions for their effective implementation at the Primary Level.

Recently class III New Mathematics Text has been introduced. The text book is having colour pictures, activities, stories, puzzles, games and project works.

The researcher with an interest studied the perceptions of teachers, students and parents to know the effectiveness and usefulness of the III class Mathematics Text Book.

Through the study, positive and significant results were yielded and the results were very encouraging. Hence the policy makers and implementing agencies should follow the suggestions to make mathematics teaching more meaningful, more purposeful, applicable, joyful and novel.

9.0 SUGGESTIONS

- It is suggested that some more eye catching colour pictures.
- It is also suggested to give equal importance to pictures of female gender on covers of the text books.
- It is advisable to keep spacing between two different activities.
- It is suggested that colour pictures are to be added where ever necessary.
- Simple and appropriate ruberics should be given where ever necessary.
- Known and real life samples are more required.
- There should be sufficient provision for practice and review.
- It should offer much more activities for drawing and other skills.
- Competency analyses are upto children level but new terms should be clearly and appropriately defined.
- It should offer detailed suggestions for project work in groups and pairs.

- Special counselling should be organised by the teachers to motivate the students and the parents.
- The language used should be simple and clear in Puzzles and Stories.
- The activities should be improved in all concepts for self learning through initiative and independent efforts.
- Orientation programme may be organised for the teachers of Tribal area.
- It is suggested to add more number of working sums on fractions and money.
- Divisions and Measurements are felt difficult by low achievers, so teachers' detailed explanation is needed.
- Evaluation sheets at the end of every topic should be introduced.
- It is suggested to introduce simple and feasible Project Works and teachers guidance is required in tribal areas.
- The Government should ensure the supply of the adequate number of text books in time to the students in schools

10.0 REFERENCES AND FURTHER READINGS

- Khaparde, 1998, D.S.E.R.T – R.I.E Banglore.
- Kothari Commission Report on Secondary Education aptly said - the destiny of a country is being shaped in her classrooms.
- Review of Related Literature
- John. W. Best – Research in Education, N.J. Prentice Hall of India PVT. Ltd, Ind 1950

ANALYSIS OF THE TRY-OUT OF THE COMPETENCY BASED TEST ITEMS IN FOUR SELECTED SCHOOLS OF KHALLIKOTE BLOCK IN GANJAM DISTRICT OF ORISSA

Govinda Chandra Pradhan and J. Jaga Rao

1.0 INTRODUCTION

It is a general phenomenon that in some subjects like Mathematics and Language students have poor scoring but very few people seek its reasons who work in the field of education .Research studies reflect some of the reasons for low achievement of the learners which are mentioned below:

i) Fail to conceptualise the test items due to defect in construction of the test items.
ii) Lack of clarity in the concepts.
iii) Fail to complete the test items within the stipulated time.
iv) Shortcomings in the modalities of administering the test.

It is a reality that students at primary stage are afraid of sitting for the examination. If the modalities of test administration are made flexible, items are accessible then a small number of students will face the test with out fear .This study was conducted to take care of administering techniques in a conducive way. It was decided by the UNICEF Orissa and DTE & SCERT Orissa jointly to administer the test items on 26.7.06 and 27.07.06 and to finalise compilation of entry of codes in the Top Sheet following which verifications etc. were made on 28.07.06 and 29.07.06.

Letters were communicated to the Headmasters of concerned schools to ensure learning atmosphere for smooth administration of test items on the scheduled dates.

2.0 OBJECTIVES

- To examine the accessibility of the learners to the test items .
- To examine the strengths and weaknesses of the test-items through try-out.
- To find out suggestive points for enrichment of future try-out exercises.

3.0 SELECTION OF SCHOOLS

Out of 168 schools in the Block only four schools were selected for the purpose of the study. The criteria of selection were fixed by the UNICEF Orissa.

3.1 Procedure of Selection of the Sample

According to the attendance taken on 26.07.06 to 27.7.06 in class III & V was taken into consideration in selecting students for the study. In respect of oral reading text, the field investigators selected 10 students out of total students keeping in view the proportionate number of boys and girls . Due care was taken not to omit any girl student.

3.2 Criteria for Selection of School and Class

i) In class III and V there should be at least 25 students on roll who are regular in attending the school.
ii) The schools must be located in rural areas.

Duration of the try-out: exercise including training 5 days.
Clientele: Primary school students of class III and V.
Subject: Math, and Language in both the classes

Day Wise Time Table for Try Out of Test Items

Date	School	Subject	Class	Name of the field investigators
26.7.06	Keshpur N.U.P.S	Math	III	G.S Mishra
		Language	V	Surendra Behera
	Panditgaon P.S	Math	III	P.K .Acharya
		Language	V	G.Ch Pradhan
	Kanheipur P.S	Math	III	Khitis Ch. Das
		Language	V	B.B.Panda
	Pathara P.S	Math	III	Somantah Patra
		Language	V	Bipra Dash
27.7.06	Keshpur N.U.P.S	Language	III	G.S .MIshra
		Math	V	Surendra Behera
	Panditgaon P.S	Language	III	P.K acharya
		Math	V	G.Ch. Pradhan
	Khanaipur P.S	language	III	Khitish Dash
		Math	V	B.B.Panda
	Pathara P.S	Language	III	Somanath Patra
		Math	V	B.Ch. Dash

Sample

School	Class III			Class V		
	Boy	Girl	Total	Boy	Girl	Total
Keshpur N.U.P.S	10	15	25	21	16	37
Panditgaon P.S	15	19	34	19	16	35
Kanheipur P.S	22	13	35	21	13	34
Pathara P.S	21	14	35	14	21	35
Total	68	61	129	75	66	141

3.3 About the Test Items

In course of verification of the answer sheets according to the test items the following observations were made:

Language

Responding to questions after listening to a story in class III, comes under the competencies of listening comprehension. Again the same item is reflected in class V, where as it is reading comprehension .The three types on comprehension i.e. Global, Local and Inferential are more applicable to reading comprehension.

As the learners have to skim and scan the passage, reading the questions by the field investigator with proper instruction will facilitate better understanding.

The learners need to read the passage silently and answer in the way of skimming and scanning the passage i.e. locating specific information and grasping the general idea.

Mathematics

Competencies like counting the numbers, place value, writing the numbers in words and figures and identification of geometrical figures in relation to shape and size .concept of more and less, big and small focus on identical shapes are reflected in the form of questions. Solving mathematical problem relating to fundamentals (addition, subtraction, multiplication and division) are reflected in the form of questions.

Try -Out Mechanism

Discussion with experts on the designed test items for modifications

↓

Training of the field investigators cum evaluators on the procedure of try out

↓

Entry of codes according to the score card in the Top sheet

↓

Administering the test items following the Dos' and Don'ts

↓

Monitoring the activities to ensure transparency.

Sample Test Items of Class III

Subject	Class	Competency
Language MIL (oriya) ORAL	III	Reading – two lettered words – three lettered words – small sentences containing three to five words – comprehend the facts after listening to a story – respond to wh –questions – tick against the correct answer after listening to a story
Written		-write two sentences about the given picture - write the words / sentences as dictated - read the paragraph and complete the gaps - giving answer to thought provoking questions
Mathematics	III	-look at the boxes in tell and which box there are more number of balls. - connect the objects and write the total number - find out the longest one among four pencils by guessing - write in figures - write in words - find out the biggest number among three

Subject	Class	Competency
		- find out and write the total number of pencils in bundles containing tens and ones. - write which is more in number - solve the problem which implies multiplication - solve a mathematical problem - find out the total amount of coins given in the picture - answer to questions implying before and after example: - which date comes after 30th April ? – Find out the geometrical shapes and sizes which are identical. – Concept of square – Find out how many match sticks required to create a full square.

4.0 FINDINGS

i) In Pathara primary school some students were found sitting silently without wielding their pencils for most of the times

ii) Some students started answering at the first reading of the instruction by the field investigator without waiting for the second reading in case of oral test . instead of giving √ mark against a particular item bearing pictures , a few students put tick mark on all the pictures in the box .

iii) Some students completed writing answers before the scheduled time.

iv) Some students started writing without waiting for the secondary reading in oral test.

v) Some students were found writing and erasing what they wrote.

vi) Some students who were not quick in writing left out some questions.

vii) Some items needed modification which were not being answered by most of the students.

5.0 SUGGESTIONS

i) Test items should thoroughly scrutinized before going for test .

ii) Checking of spelling errors, in construction of items with reference to clarity of language need to be given utmost importance.

iii) Teacher should be given rigorous training for try out of the oral test.

iv) Left out items (not at all attempted) by most of the students should be recoded item wise to locate difficult items.

v) The findings should be again reviewed by the experts .

6.0 REFERENCES

- Action research and innovation practices published by IGNOU-MHRD, Govt. of India project.
- Test items prepared by Ahmadabad Initiatives with collaborative effort of UNICEF Bhopal (MP) and Bhubaneswar (Orissa)
- Resource materials on test items supplied by UNICEF Orissa
- Action Research published by N.C.T.E , New Delhi .

ASSESSMENT OF TEACHERS TRAINING PROGRAMME UNDER SARVA SHIKSHA ABHIYAN

S.K. Dey

1.0 INTRODUCTION

It is universally acknowledged that the teacher plays a pivotal role in the teaching learning process and is thereby responsible for improvement of quality education within classroom. In the classroom setting teachers' competence depends greatly on their knowledge and skills in different subject areas, mastery of the same and pedagogical practices they adopt. In addition, teacher's attitude towards children, his level of motivation, interest, commitment, and ability to interact with parents and community members also contribute to the quality of teaching learning in classroom situation.

The Government has launched a drive for universalisation of elementary education all over India under Sarva Shiksha Abhiyan. The scheme of Sarva Shiksha Abhiyan was started in the year 2001-2002 with the objective of unversalisation of elementary education under this scheme, Government of Arunachal Pradesh has recruited a number of teacher in every district and posted in various rural schools. According to the guideline, all teachers who have been appointed and posted under SSA should be trained through DIETs. In this connection they had attended thirty days Induction level Training programme in DEIT, Changlang in the Month of May '06. Faculty members of DIET, Changland conducted training programme for posted SSA teachers by DDSE, Changland and accordingly they have resumed their duties in their respective schools after training.

The faculty members of DIET, Changland have felt the need of to assess the output of training programme given to SSA teachers. In this context, DIET, Changland undertook the assessment study on the assessment of training programme under SSA.

2.0 OBJECTIVES

The main objectives of the assessment study are:

- To find out the impact of imparted training programme in teaching learning practice.
- To know about the methods of teaching adopted by the teachers.
- To develop locally useful low cost/no cost teaching aids.

3.0 SCOPE OF THE STUDY

The scope of the assessment study/survey was limited to the Primary and Middle Schools of various circles of Changlang district of Arunachal Pradesh.

3.1 Sampling

The sample for the study was selected from the primary and middle schools of Changlang district. A list of primary and middle schools of the district where SSA teachers are serving was obtained from the ADO of DDSE office Changlang district the list included 19 schools in all the names of the schools is presented in Appendix I.

For selection of schools for proposed assessment study a simple random sampling procedure was followed by the investigators. The trained SSA teachers of different primary and middle schools of this district were selected.

The assessment study was conducted with the help of two sets of framed Questionnaire and are set of opinionative and one set of observation schedule as mentioned below:

i) Headmaster Questionnaire.
ii) Teachers observation schedule/Teachers Questionnaire
iii) Students opinionative
iv) Co-scholastic Questionnaire

3.2 Method of Assessment Study

In order to assess the training programme under SSA Questionnaire, observation schedule and opinionative were used. Adequate and necessary information regarding the assessment of training programme which had already been imparted to the SSA teacher's induction level training at DIET Changlang were collected. The teachers appointed under SSA were selected almost equally from rural and urban areas for the purpose of the study. The questionnaire, observation schedule and opinionative were developed in workshop situation by the investigators under the guidance of the Principal, SIE, Changlang. A copy of each of the tool are given in the Appendices II, III and IV. The number of items finally selected for the tools is given below:

S.No.	Particulars	No. of Items
1	Headmasters Questionnaire	29
2	Teachers Observation Schedule	39
3	Students Opinionative	11
4	Co-Scholastic Questionnaire	Part A. - 13 Part B. - 10

3.3 Data Analysis and Interpretation

The data were collected from the selected groups with the help of the tools. The data were analysed by converting responses of the headmasters, teachers and pupils into percentages. The details are presented as under:

Analysis of Headmasters Questionnaire:

S.No.	Items	% of positive response
1	SSA teachers attending the school in time	80%
2	Teachers attending the class in time	86%
3	Attendance taken subject wise	Nil
4	Teaching Aids available in School	80%
5	TLM grand received by the SSA teachers	53%
6	TLM developed by the SSA teachers	Nil
7	Home work given by the teachers	73%
8	Home work checked by the teachers	66%
9	CCE Methods adopted	60%
10	Information communicated to parents regarding progress of their wards	48%
11	Maintained record/award list of CCE	Nil

3.4 Analysis of Teachers Questionnaire

S.No.	Particulars	% of positive response
1	Lesson plan used during classroom teaching	27%
2	Teaching Aids developed by the SSA teachers with the help of TLM grant Rs. 500/-	Nil
3	Received TLM grant Rs. 500/-	80%
4	Teaching Aids used in classroom	47%
5	Teacher Centered approaches adopted	50%
6	Child Centre approaches adopted	53%

S.No.	Particulars	% of positive response
7	Black Board work done	100%
8	Play way method adopted	53%
9	Activity oriented method adopted	47%
10	Diagnosis of Hard spot	47%
11	Remedial measures adopted	40%
12	Home assignment given	80%
13	Home assignment checked	67%
14	Physical punishment being given in the class room	80%

3.5 Analysis of Child Opinionative

S.No.	Particulars	% of positive response
1	Teacher created attractive classroom environment	75%
2	Students understood lesson satisfactorily	45%
3	Question asked by the students	40%
4	Question asked by the teachers	60%

3.6 Analysis of Co-scholastic Questionnaire

S.No.	Particulars	% of positive response
1	Availability of teacher teaching in co-scholastic area	10%
2	Co-scholastic subjects being taught as separate subject	30%
3	Co-scholastic subjects being taught in integrated way	10%
4	Co-scholastic subjects being not taught at all	60%
5	Number of trained teachers in these area	30%
6	Number of subject teachers attended in-service training programme in these field.	20%

4.0 FINDINGS

Analysis and interpretation of the data collected from headmaster's teachers and students reveal the following results in respect of the impact of training imparted to teachers under SSA:

i) Most of the teachers were regular and punctual in attending school and their classes.

ii) Only 27 percent of the teachers prepared lesson plan for teaching lesson in the classes.

iii) Little more than 50 percent of SSA teachers only adopted child centered approaches to teaching in the classroom. They are found using: (a). Play way method (b). Activity based method.

iv) On the other hand, about 50 percent of the teachers were still in the habit of using traditional teacher centered approach. The percentage of teachers asking questions was far more than the percentage of the students making queries from the teachers in the process of teaching learning activities.

v) Only 45 percent of the students responded that they understood the lessons. Thus a large number of students had learning difficulties. All the teachers were favour of the use of blackboard in the classroom transaction.

vi) 80 percent of the teachers engaged the students in homework assignments but the same numbers of teachers don't check the home assignments of the students. Hence a dichotomy was observed between the number of teachers giving home works and number of teachers checking the student's homework.

vii) 53 percent of the teachers did not any teaching aids even though some teaching aids were available in the schools.

viii) 80 percent of the teachers have received the grant under SSA for development of TLM to boost up their use in the classroom effective teaching. But no teachers have so far developed any TLM by utilizing the fund in the interest of learners. It indicates lack of motivation of teachers to use teaching aids and ignorance of their usefulness.

ix) In the area of evaluation, it was noticed that 60 percent of the school under survey followed the system of CCE but not a single school maintained record of CCE. The performance of the learners in CCE is not considered for finalization of results for promotion to the next higher class.

5.0 SUGGESTIONS

Inspite of the induction level training availed by the SSA Teachers, they exhibit inadequate preparedness to discharge the responsibilities of teachers. A number of pitfalls were noticed in the teacher approaches to teaching in the classroom situation. The following suggestions are therefore made the provided the basis of the findings of the survey:

i) The Headmasters of the schools should insist on preparation and use of the lesson plan for effective and objective based teaching.

ii) As the teachers lack the motivation to use learner centered approach to teaching, orientation programmes to familiarize the teachers with relevant classroom strategies of such approach may be conducted in keeping with the guidelines of NCF, 2005.

iii) A case study of the students learning disabilities may be undertaken to find out bottle-necks in the classroom transactions and suitable remedial measure may be taken.

iv) The teachers have to refrain from physical punishment in their dealing with all types of learners as it is detrimental to learning. They need to have a softer approach to give a feeling of freedom and security essential for learning.

v) The performance of the students in CCE may be recorded and be given due credit in the finalization of the results of the students for promotion to the next higher class.

vi) The school authorities should keep the parents informed about the performance level of their wards on regular basis. They may conduct PTA and MTA meeting to interact on the problems of the students from time to time.

vii) The school authorities without exception may be impressed about necessity of teaching in co-scholastic subjects in the schools.

6.0 CONCLUSION

The study on assessment of training programme under SSA teachers in Changlang District of Arunachal Pradesh reveals an overall on average positive impact on teachers. But there still exist lot of scope for improvement in certain areas of teaching like- a) Teaching practices or transactional strategies. B) Use of teaching aids. C) Care of the children with learning handicaps and d) Conduct of co-scholastic activities in the schools.

CURRICULUM TRANSACTION-USE OF ICT FOR EFFECTIVE CLASSROOM TEACHING AT ELEMENTARY STAGE

Sujata Pattanaik and Bharati Pattanaik

1.0 INTRODUCTION

Sarva Shiksha Abhiyan with its diversified motives has reached in each and every corner of our nation, to ensure universalisation of elementary education and promoting quality elementary education. A wide range of technological possibilities is the most vital support system for enhancing quality education. Present scenario with the use of ICT could meet the challenge and fulfill the prime goal of SSA. The best possibilities of curriculum transaction through ICT could enhance the achievement level of children at elementary stage.

The major key indicators in an effective transaction of curriculum relate to:

i). existing curriculum and its coverage;
ii). curriculum revision and exercises ;
iii). competency based materials;
iv). black board and its usage;
v). availability of textbooks to children;
vi). textbook production and distribution;
vii). availability of teaching learning materials and its use;
viii). classroom organization (sitting arrangement and classroom setting);
ix). display materials in the classroom;
x). grouping of classroom (PTR);
xi). methods of introducing the topics;
xii). teaching learning process (pedagogy);
xiii). students initiatives in teaching learning process;
xiv). assessment procedure and frequency of assessment;
xv). tools used for monitoring and evaluation;

Curriculum transaction based on multi-various dimensions which have direct or indirect effect on improving the quality of the teaching learning process, is the major goal of SSA. In the present context various strategies and ICT initiatives have been taken up for preparation of teachers, classroom processes and achievement of children. Each and every programme has its own mechanism and potentialities to promote quality elementary education. We can use ICT in classroom situation for teaching learning process to transact competency based curriculum at elementary stage and to meet the challenge of quality dimensions.

2.0 RATIONALE

In order to transact any curriculum, one should read to learn about the learners- their age, their previous training or education, the things they already know, the things they were interested in and the things that are important to them, knowledge, attitude and skills the children bring to the class, the things which are especially interesting to them, their personal goals and problems. The major quality initiatives under SSA has covered up community support and participation, teacher and teacher preparation, curriculum and teaching learning materials, classroom practices and process, learners assessment, monitoring and supervision etc.

Generally learners come to class with a background of knowledge and experience. A good curriculum uses that prior knowledge as the foundation for new learning. The curriculum introduces new ideas generally and encourages the learner to use what they already know and to make sense of the new ideas.

Acquiring the basic competencies in any subjects at elementary level, National Curriculum Frame Work (2005) strongly recommended for substantial improvement in quality elementary education. In this context, it was therefore decided to undertake the study on the theme: ***use of ICT in classroom practices to improve the achievement level of the children and methodological improvement of the children, with the following objectives:***

3.0 OBJECTIVES

- To assess the utility of the audio-cum-radio programme SURAVI I, II and III for the target group.
- To study the problems of audio –cum-radio programmes and suggest remedial measures.
- To make an appraise of the practical classroom implication of the programme.
- To categorise minimum competencies achieved by different groups of children.
- To examine the level of participation of the target groups.
- To find solution for quality improvement.

4.0 HYPOTHESIS

- There will be significant improvement in routine classroom teaching.
- There will be a significant result of ICT gain in achievement of students after listening the content based audio programme.

- There will be no significant change in the views regarding the utility of the content based audio programme SURAVI I,II &III.

5.0 DESIGN

Descriptive survey research design was adopted to assess the utility and competence of the content based audio programme SURAVI I, II and III developed by Distance Education Unit, OPEPA for the target groups under SSA.

6.0 TOOLS

For achieving the objectives of the study, achievement tests based on the programme content in respect of language and mathematics were developed.

7.0 ORANISATION OF SAMPLE

Samples of the study were selected from the children studying in primary and upper primary classes to achieve the purpose of the study. The distribution of children is presented in Table I.

Table-I: Class wise Sample of the Study

Primary	100 Students
Upper Primary	100 Students

The success of the programme for the quality improvement in primary and upper primary schools depends upon the nature and type of the audio materials developed for them.

7.1 About Audio –cum- Radio Programme (SURAVI I, II & III)

This Audio-cum-Radio material consists of three volumes related with mathematics, environmental science, social science & language for elementary class children. It was developed by joint venture of Distance Education Unit, SSA, OPEPA and DEP-SSA, IGNOU, New Delhi. Main purpose of this material was to provide quality education to elementary school children along with emphasis on attainment of minimum competencies in different subjects.

SU SURAVI-I	Khaijana, Janikhaa, Asabulijiba, Amaraija, Gachhabanchale Amebanchiba Keunthi Kana Kanhiki Bhaba

SURAVI-II	Patara Patara Sajapatar Paribesa Surakhya Jiban Rakhya Patara Mo Rosei Ghara Chala Aabarjana Dureideba Chithi Asichhi Chithi
SURAVI-III	Alua Jetiki Adhara Setiki Gamana Gamana Anka Padha Hisab Jana Suna Ajara Karamati

Thus the programme ranged from mathematical competency to linguistic and scientific competency which elementary school children were expected to master by listening to the programme.

8.0 PROCEDURE

An achievement test on different contents included in the programme was developed. The students from two elementary schools having primary and upper primary classes were selected to know the use and effect of ICT for effective classroom teaching at elementary stage and also their perception towards ICT.

9.0 ANALYSIS AND INTERPRETATION

The performance of both primary and upper primary students in the achievement tests based on the programme content in respect of language and mathematics was assessed in terms of the mean percentage presented in Table 2.

Table-2: Achievement of Students in language and mathematics in Mean Percentage (Pre-test)

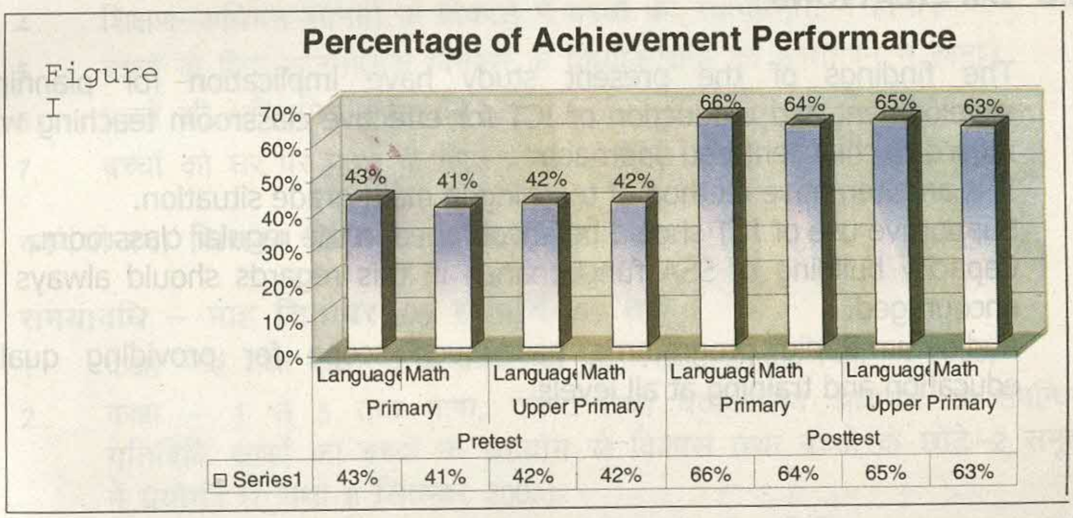
School	N	Language Mean percentage	Mathematics Mean percentage
Primary Class			
School-I	50	44%	42%
School-II	50	42%	40%
Upper Primary Class			
School-I	50	42%	42%
School-II	50	46%	42%

Table-3: Achievement of Students in language and mathematics in Terms of Mean percentage (Post test)

School	N	Language Mean percentage	Mathematics Mean percentage
Primary Class			
School-I	50	64%	68%
School-II	50	68%	62%
Upper Primary Class			
School-I	50	65%	64%
School-II	50	63%	62%

On comparing the performance of students presented in the Tables 2 and 3 through statistical analysis revealed that the difference in achievement level between pre-test and post-test is significant. In post-test the students showed better performance than the pre-test. The difference of which is also depicted in graphically in Figure I.

Figure I



Statistical analysis of both table I&II reveals that there are significant difference between the responses of same group of children which reveals the impact of ICT for effective classroom teaching at elementary level.

10.0 CONCLUSION

On the basis of the analysis of data in respect of pre-test and post-test scores, the following conclusions may be drawn:

- There is positive effect with respect to impact of ICT on students.
- There is positive attitude towards the teaching through ICT.
- There is significant achievement between the pre-test and post-test scores.
- There is a significant possibility for the improvement of classroom teaching through improved ICT.

Effective classroom transaction refers to the skill of day to teaching to day achieve educational objectives effectively through meaningful interaction between teacher and pupils, pupils and pupils and pupils and learning materials. As the role of the teacher is no longer sufficient to merely impart content knowledge, appropriate teaching aids and other teaching learning materials should be prepared and developed to support and enhance the effectiveness of teaching learning process in the classroom. Since young children have short span of attention, such type of teaching learning should be organized with a view to making teaching learning process participatory and relevant.

11.0 IMPLICATIONS

- The findings of the present study have implication for planning, development and production of ICT for effective classroom teaching with regard to child centered approach.
- It is an alternative method of teaching in multi-grade situation.
- Supportive use of ICT should be encouraged in the regular classroom.
- Capacity building of SSA functionaries in this regards should always be encouraged.
- Audio-cum-Radio programme has much scope for providing quality education and training at all levels

परिषदीय प्राथमिक विद्यालयों में बहुकक्षां शिक्षण/ बहुस्तरीय शिक्षण स्थिति में टी0एल0एम0 निर्माण तथा आनन्दायी शिक्षण अधिगम प्रक्रिया की समस्याओं का अध्ययन एवं समाधान।

आर0 बी0 सिंह

उद्देश्य –

1. परिषदीय प्राथमिक विद्यालय में अध्ययनरत कक्षां– 1से 5 तक के बच्चों के अधिगम क्रिया को सक्रिय एवं आनन्दायी बनाना।
2. बच्चों में स्वयं समाधान, आत्मविश्वास, स्व–प्रबंधन तथा स्व–नियंत्रण की प्रवृत्ति विकसित करना।
3. बच्चों को अपनी अन्तर्निहित क्षमताओं को विकसित करने के अवसर देना।
4. अध्यापकों तथा बच्चों ;दोनो में सृजनात्मक अभिव्यक्ति के अवसर की खोज करना।
5. बच्चों के घर पर सीखने के वातावरण निर्माण हेतु युक्ति का विकास करना।

समस्याओं के कारण जिनका निदान किया गया –

1. विद्यालय के शैक्षिक वातावरण में नीरसता।
2. कक्षां शिक्षण प्रक्रिया पूर्णतः अध्यापक निर्देशित होना।
3. शिक्षण–अधिगम सामग्री बच्चों के पसन्द का न होना।
4. शिक्षण–अधिगम सामग्री के विकास में बच्चों की सहभागिता न होना।
5. बच्चों के लिए सृजनात्मक विकास के क्रियाकलापों का आयोजन न होना।
6. बच्चों की अनियमित उपस्थिति।
7. बच्चों को घर पर पढने के लिए प्रेरणा न मिल पाना।

कार्ययोजना जिसका क्रियान्वयन किया गया –

समयावधि – माह सितम्बर–05 से मार्च–06 तक

1. कक्षा – 2 तथा कक्षा–5 के बच्चों का पूर्व परीक्षण। (06 सितम्बर 2005)
2. कक्षा – 1 से 5 तक भाषा, गणित तथा पर्यावरणीय अध्ययन से संबन्धित गतिविधि कार्डो का बच्चों के सहयोग से विकास तथा बच्चों के छोटे–2 समूहों में प्रयोग। (7 तथा 8 सितम्बर 2005)
3. समूह में किये जा रहे प्रयोगों पर अध्यापिकाओं की प्रतिक्रिया प्राप्त करना तथा चर्चा करना। (30 सितम्बर 2005)
4. अध्यापिकाओं को टी0एल0एम0 विकास में बच्चों की सहभागिता लेने के लिए प्रेरित करना। (05 अक्टूबर 2005)

5. विद्‌यालय में अध्ययनरत कक्षा–1 तथा 2 के बच्चों के सम्मिलित समूह तथा कक्षा– 3, 4 तथा 5 के बच्चों के सम्मिलित समूह का निर्माण। (15 अक्टूबर 2005)
6. विद्‌यालय की समय सारिणी में 10 बजे से 10.20 तक प्रार्थना सभा, 10.20 से 12.30 तक सभी विषयों के सामान्य शिक्षण, 12.30 से 1.30 बजे तक मध्यान्ह भोजन तथा सोमवार से बृहस्पतिवार तक 1.30 बजे से 4 बजे तक समूह अधिगम, शुक्रवार को बालचित्र कथा का विकास ;1.30 बजे से 4 बजे तक) तथा शनिवार को मिट्टी के खिलौने तथा गोलियों का निर्माण (1.30 बजे से 4 बजे तक) कार्य सम्पादित करने की कार्ययोजना का निर्माण। (20 अक्टूबर 2005)
7. बाल सरकार का गठन तथा समितियों का निर्माण ;प्रार्थना समिति, सांस्कृतिक कार्यक्रम समिति, स्वच्छता समिति, बागवानी समिति तथा जलपान समिति)। (25 अक्टूबर 2005)
8. बच्चों को प्रकृति पुस्तक के विकास का अवसर देना।
9. बच्चों को बाल चित्र कथा के विकास का अवसर देना।
10. विद्‌यालय के प्रांगण को हरित कक्षा के रूप में विकसित करने के लिये प्रेरित करना।
11. कक्षा–कक्ष को अपने सपनों की कक्षा बनाने के लिये बच्चों को प्रेरित करना।

प्रतिदर्श

– प्राथमिक विद्‌यालय रायपुर, (देहरादून)–

1. विद्‌यालय में अध्ययनरत कक्षा–1 से 5 तक के सभी 60 बच्चे।
2. विद्‌यालय में कार्यरत दो अध्यापिकाएँ।
3. विद्‌यालय प्रबन्ध समिति के सदस्य।
4. विषयवार सम्प्राप्ति स्तर मापन हेतु कक्षा–2 तथा 5 के बच्चे।

"प्रयोग"

प्रयोग–1

दिनांक 6 सितम्बर 2005 को मध्यान्तर के समय विद्‌यालय के अध्यापिकाओं के साथ चर्चा करते हुये कक्षा– 1, 2 तथा 4 के कुल 5 बच्चों के साथ पर्यावरणीय अध्ययन का गतिविधि कार्ड विकसित किया गया तथा बच्चों को उन कार्डो के साथ खेलने के लिए कहा–

आओ खेलें खेल

I kWy ssokys	I kWu yssokys

–

बच्चे छोटे–2 कार्डो के ढेर से पहचान कर आपस में चर्चा करते हुए तथा निर्णय लेकर कार्डो को सही संबोध के सम्मुख लगा रहे थे। यह देखकर अध्यापिकाएँ प्रेरित हो रही थीं।

इसी तरह के गतिविधि कार्ड भाषा तथा गणित में भी प्रयोग में लाये गये।

जैसे–

आओ खेलें खेल

शब्द	विलोम
दिन	रात

बडा झ	छोटा ढ
10	9

छोटा	बड़ा

20	18

अ	आ

आरोही क्रम					
5	8				

म	का	5	8	10	20	15	125

क्षमता आधारित टी 0 एल 0 एम 0 पिटारा लेते हुये बच्चे तथा सहयोग करती हुयी विद्यालय प्रबन्ध समिति की अध्यक्ष

प्रयोग– 2

विद्यालय की समय–सारिणी का निर्माण–

दिन	10 बजे से 10.20 तक	10.20 से 12.30 बजे तक	12.30 से 1.30 बजे तक	1.30 बजे से 4 बजे तक
सोमवार से बृहस्पतिवार	प्रार्थना सभा	सामान्य शिक्षण (भाषा, गणित तथा पर्यावरणीय अध्ययन)	मध्याह्न भोजन	समूह अधिगम तथा टी0एल0एम0 निर्माण
शुक्रवार	प्रार्थना सभा	सामान्य शिक्षण (भाषा, गणित तथा पर्यावरणीय अध्ययन)	मध्याह्न भोजन	बाल चित्रकथा का विकास
शनिवार	प्रार्थना सभा	सामान्य शिक्षण (भाषा, गणित तथा पर्यावरणीय अध्ययन)	मध्याह्न भोजन	मिट्टी का कार्य (खिलौने, मॉडल गोलियाँ तथा कागज एवं पॉलिथिन से खिलौने बनाना)

प्रयोग– 3

बाल सरकार का गठन –

अध्यक्ष – प्रिया पाल – कक्षा–4
महामंत्री – सुनील – कक्षा–5
प्रार्थना समिति – अनुराधा–कक्षा– 4, श्वाती– कक्षा–5, पूनम– कक्षा–3
सांस्कृतिक समिति – मीना पाल–कक्षा–5, रूपा पाल–कक्षा–3, निधि–कक्षा–3
जलपान समिति – पूनम–कक्षा–5, आशीष–कक्षा 4
स्वच्छता समिति – आरती भट्ट, कक्षा–4, रोहित, कक्षा–3, अनिल कुमार, कक्षा–5

बागवानी समिति – पूनम राणा, कक्षा–5, गणेश भट्ट, कक्षा–3, सागर, कक्षा–4

प्रयोग –4

बाल चित्र कथा का विकास –

– बच्चे प्रत्येक सप्ताह में शुक्रवार को अपनी पसंद के चित्र बनाते है तथा रंगते है। चित्र पर आधारित कहानी लिखते हैं। चित्रों तथा कहानियों का संकलन कक्षावार किया जाता है तथा उन्हे फाइल में रखा जाता है। जिसे बाल चित्र कथा कहते है। बच्चों में सृजनात्मक कौशल तथा कल्पना शक्ति के विकास में सहायक रहा है। उदाहरण के लिए कुछ कहानियाँ दी जा रही है–

(उदाहरणार्थ दो कहानी)

1. एक शहर था। उस शहर मे एक गाँव था। उस गाँव का नाम रायपुर था, उस गाँव में एक औरत थी। उस औरत के दो बच्चे थे। एक लड़की और एक लड़का था, लड़की का नाम पूनम था और लड़के का नाम मंजीत था। एक दिन दीपावली आयी। पूनम और मंजीत ने खूब पटाखे फोड़े और उनकी माँ ने चारों तरफ दीये और मोमबत्ती जलायी और खुशी से अपने पास पड़ोस में मिठाई बांटी और अपने बच्चों को भी खिलायी और पूनम और मंजीत ने अपने घर के दरवाजे पर माला लगायी। पूनम कक्षा 4 मे पढ़ती थी और मंजीत कक्षा 5 मे पढ़ता था और उनकी मम्मी

सिलाई का काम करती थी। दीपावली के अगले दिन पूनम के पापा आये पूनम ने अपने पापा को कहा पापा दीपावली को घर क्यों नहीं आये? पूनम के पापा ने कहा बेटे मुझे माफ कर दो। पूनम ने कहा पापा आपको माफ कर दिया। पूनम के पापा ने कहा कि पूनम बेटे मैं तेरे लिये फ्राक लाया हूँ और मंजीत बेटे मै तेरे लिये शर्ट और पैन्ट लाया हूँ और तेरी मम्मी के लिये साड़ी लाया हूँ। और फिर सबने खुशी से नये कपड़े पहने और वे खुशी से अपने घर में रहने लगे।

(पूजा कुमारी (कक्षा 5)

2. एक दिन एक नन्हा सूरजमुखी का पेड़ था। वह बड़ा हो गया। उसमें फूल आने लगे। एक दिन एक लड़का रास्ते से जा रहा था। उसने उस पेड़ को देख लिया। उसने उस फूल को तोड़ दिया। पौधे को बहुत दर्द हुआ। वह तो कुछ कह भी नहीं सकता था। वह मन ही मन बहुत दुखी हुआ। परन्तु जब वह लड़का घर पहुँचा, तो उसकी माँ ने उसे समझाया कि हमें फूल नहीं तोड़ना चाहिये। यह फूल तो मैदान में अच्छे लगते हैं, उसकी माँ ने उसे यह भी बताया कि हमें दूसरों को दर्द नहीं पहुँचाना चाहिये।

(दिनेश भट्ट (कक्षा 5)

प्रयोग –5

प्रकृति पुस्तक का विकास –

कक्षा–3,4 तथा 5 के बच्चे एक नोट बुक में अपने आस–पास प्राकृतिक वातावरण में वस्तुओं (पेड़–पौधे, फूल, पत्तियों,फलों) की अनुभूति करते हैं। उनके पत्ते, फूल, फल आदि अपनी कापी के पन्ने में चिपकाते हैं तथा उनके बारे में विभिन्न प्रकार की जानकारियाँ अपने दोस्तों, माता–पिता, दादा–दादी तथा पड़ोसियों से पूछकर अपनी कापी में लिखते हैं। इस प्रकार के संकलन से बनी नोट बुक को प्रकृति पुस्तक का नाम दिया गया है। यह तरीका बच्चों के घर पर सीखने–सिखाने के वातावरण निर्माण में सहायक रहा है।

प्रयोग –6

हरित कक्षा –

विद्यालय के प्रांगण को बच्चों द्वारा हरित कक्षा के रूप में सजाया गया है। बाल सरकार के अध्यक्ष तथा बागवानी समिति के सदस्यों द्वारा विद्यालय के सभी बच्चों का

समूह बनाया गया है। प्रत्येक समूह को एक–एक क्यारी दी गयी है । बच्चे अपनी–अपनी क्यारियों में फूल के पौधे, सब्जी मौसम के अनुसार लगाते है, सिंचाई करते है, तथा देखभाल करते है। बच्चें अवकाश के दिनो में भी क्यारियों की सिंचाई करते है तथा विद्यालय की देखभाल करते है। भोजन माता मध्याह्न भोजन में बच्चों द्वारा उगायी गयी ताजी तथा हरी सब्जी (लाई, धनिया, लहसुन, प्याज, मिर्च) बनाकर बच्चों को खिलाती है।

प्रयोग–7

ड्रीम क्लास रूम

विद्यालय में दो कक्षा–कक्ष तथा एक बरामदा है। एक कक्ष में कक्षा–1 तथा 2 के बच्चे बैठते है, तथा दूसरे कक्ष में कक्षा–3, 4 तथा 5 के बच्चे बैठते हैं। बच्चे स्वयं चित्र, मिट्टी तथा कागज के खिलौने, मॉडल तथा गोलियॉ बनाते हैं, रंगते है तथा अपनी कक्षा को सजाते है। बच्चों द्वारा कार्नर में रखे खिलौने तथा उपर से लटकते हुए चित्र मनमोहक लगते हैं।

अपनी कक्षा को सजाते हुये बच्चे।

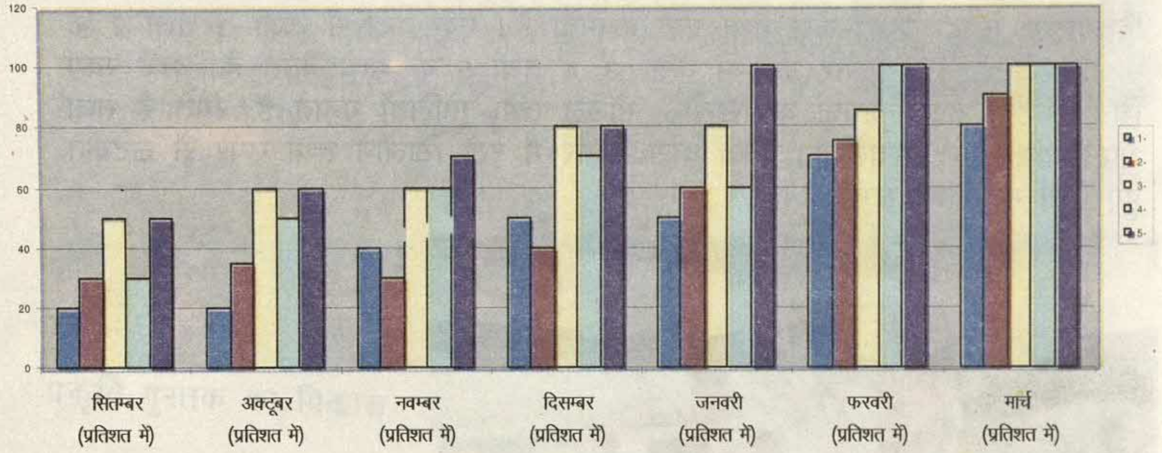
"मूल्यांकन"

1. बच्चों की नियमित उपस्थिति –

विधि– 1. अवलोकन (सप्ताह में एक दिन)

2. उपस्थिति पंजिका का मासिक अवलोकन

कक्षा	सितम्बर % मे	अक्टूबर % में	नवम्बर % मे	दिसम्बर % में	जनवरी % में	फरवरी % में	मार्च % में
1.	20	20	40	50	50	70	80
2.	30	35	30	40	60	75	90
3.	50	60	60	80	80	85	100
4.	30	50	60	70	60	100	100
5.	50	60	70	80	100	100	100

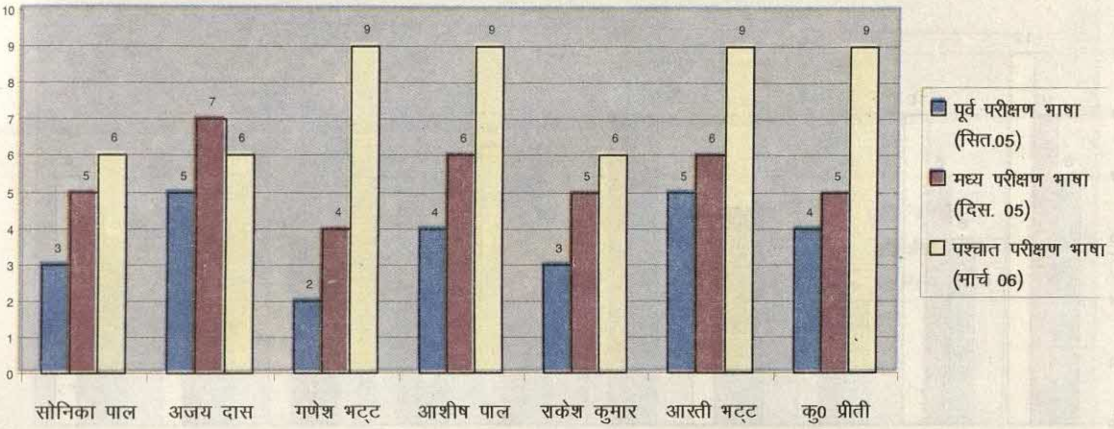


56

2. उपलब्धि स्तर–

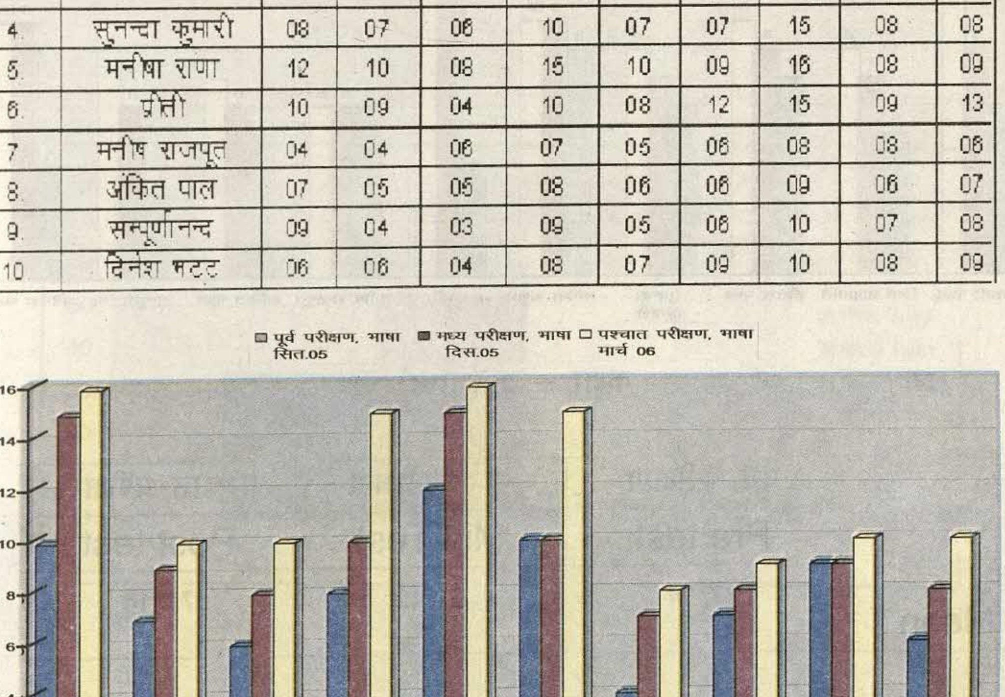
कक्षा– 2 ;भाषा तथा गणितद्ध

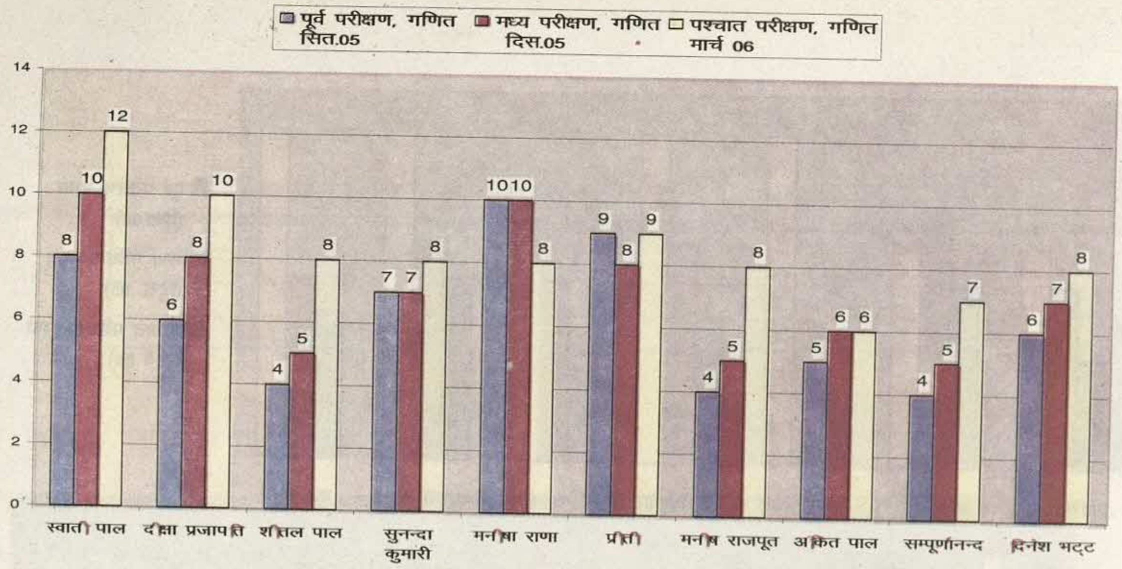
क्र.स	छात्र / छात्राओं का नाम	पूर्व परीक्षण, सित.05		मध्य परीक्षण, दिस.05		पश्चात परी0 मार्च 06	
		भाषा	गणित	भाषा	गणित	भाषा	गणित
1.	सोनिका पाल	03	03	05	04	06	07
2.	अजय दास	05	04	07	05	06	07
3.	गणेश भट्ट	02	02	04	05	09	07
4.	आशीष पाल	04	05	06	07	09	06
5	राकेश कुमार	03	04	05	06	06	08
6.	आरती भट्ट	05	03	06	05	09	07
7.	कु0 प्रीती	04	03	05	05	09	07

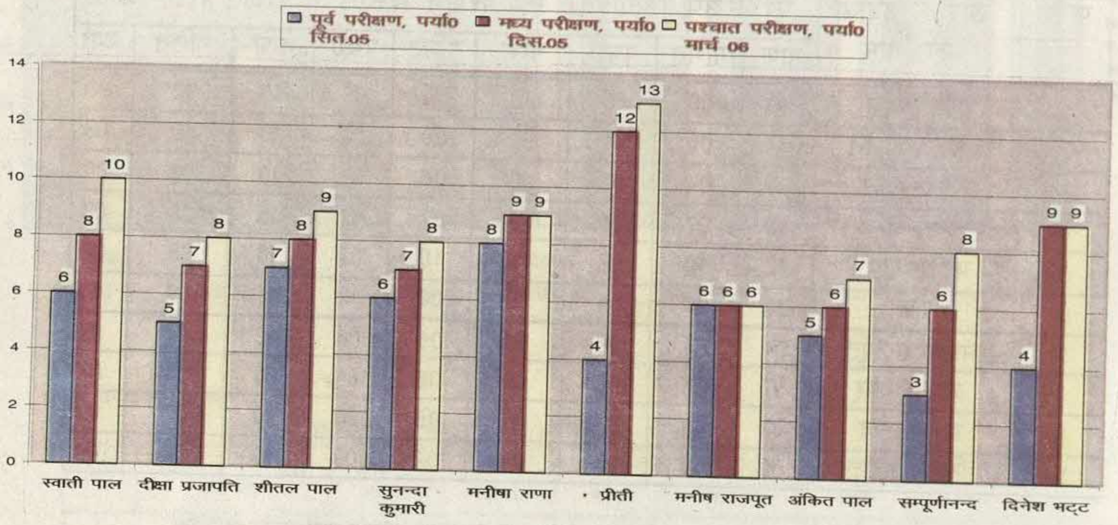


कक्षा– 5 ;भाषा, गणित तथा पर्यावरणीय अध्ययनद्ध

क.स.	छात्र / छात्राओं का नाम	पूर्व परीक्षण, सित.05			मध्य परीक्षण, दिस.05			पश्चात परी0 मार्च 06		
		भाषा	गणित	पर्या0	भाषा	गणित	पर्या0	भाषा	गणित	पर्या
1.	स्वाती पाल	10	08	06	15	10	08	16	12	10
2.	दीक्षा प्रजापति	07	06	05	09	08	07	10	10	08
3.	शीतल पाल	06	04	07	08	05	08	10	08	09
4.	सुनन्दा कुमारी	08	07	06	10	07	07	15	08	08
5.	मनीषा राणा	12	10	08	15	10	09	16	08	09
6.	प्रीती	10	09	04	10	08	12	15	09	13
7	मनीष राजपूत	04	04	06	07	05	06	08	08	06
8.	अंकित पाल	07	05	05	08	06	06	09	06	07
9.	सम्पूर्णानन्द	09	04	03	09	05	06	10	07	08
10	दिनेश भट्ट	06	06	04	08	07	09	10	08	09

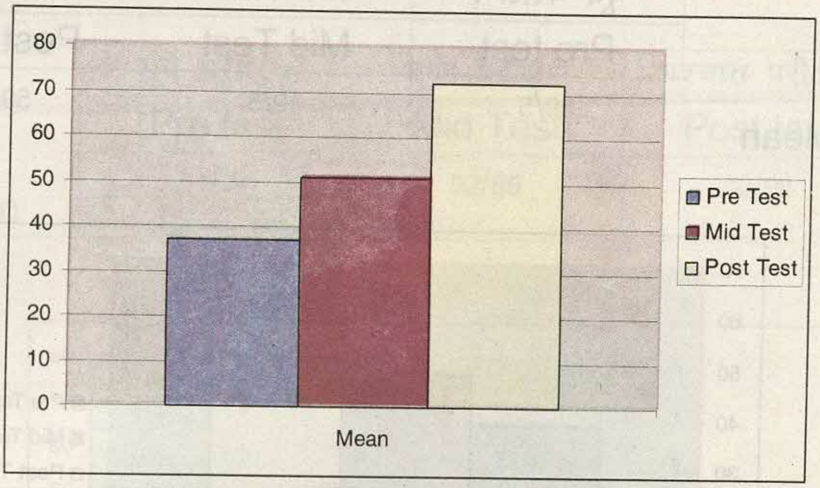






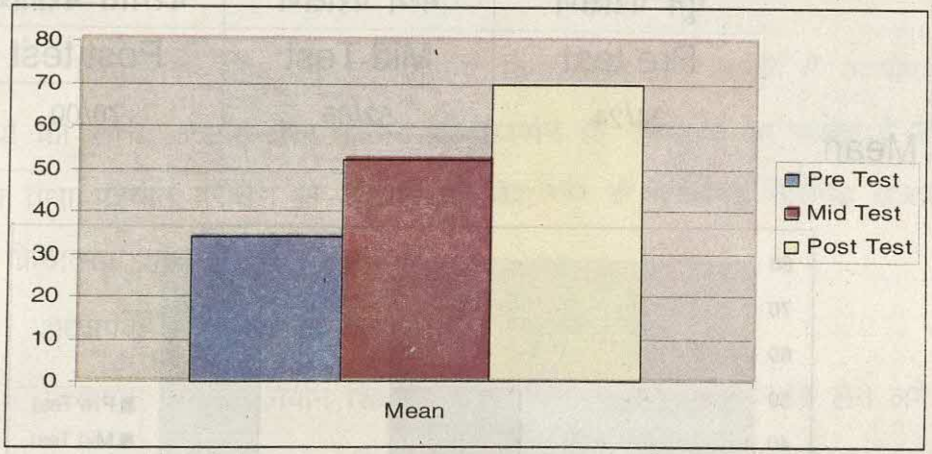
कक्षा – 2 (भाषा)

	पूर्व परीक्षण	मध्य परीक्षण	पश्चात परीक्षण
	Pre test	Mid Test	Post test
Mean	37/14	51/42	77/14



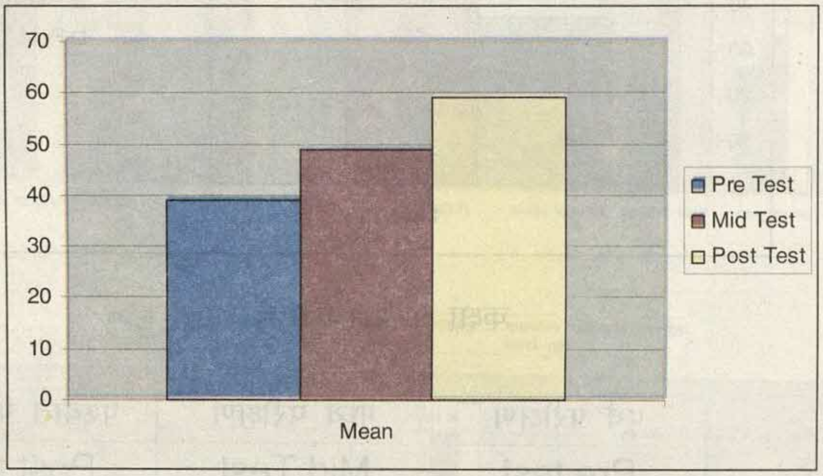
कक्षा – 2 (गणित)

	पूर्व परीक्षण Pre test	मध्य परीक्षण Mid Test	पश्चात परीक्षण Post test
Mean	34/24	52/85	70/00



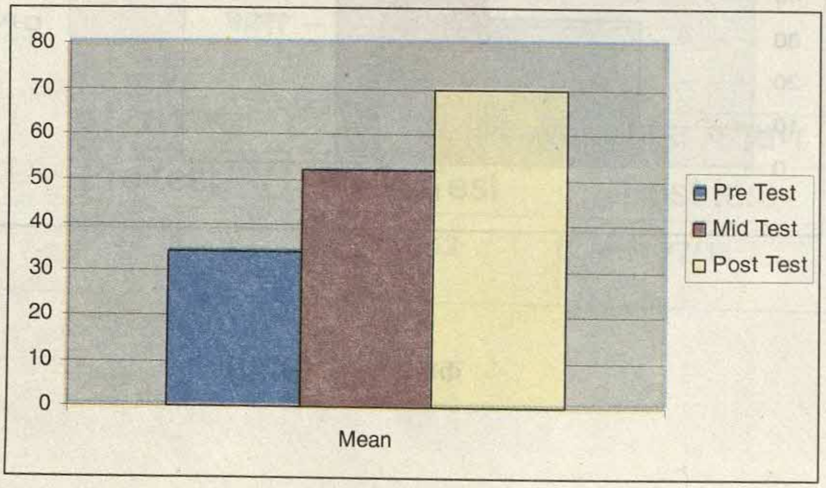
कक्षा – 5 (भाषा)

	पूर्व परीक्षण	मध्य परीक्षण	पश्चात परीक्षण
	Pre test	Mid Test	Post test
Mean	39/5	49/5	59/5



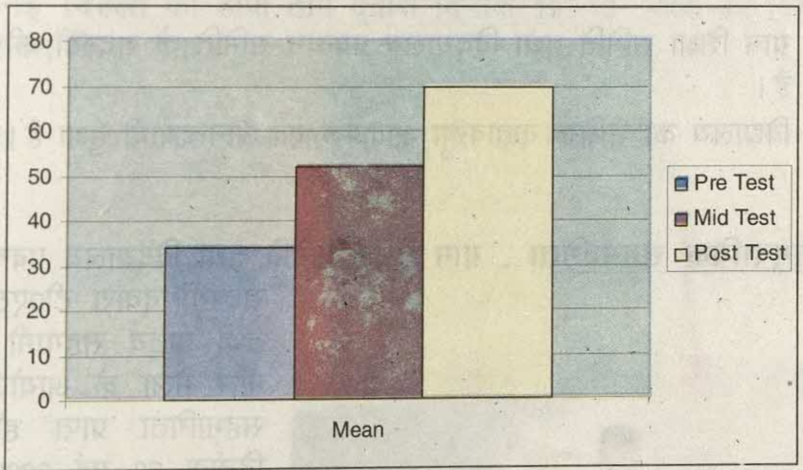
कक्षा – 5 (गणित)

	पूर्व परीक्षण	मध्य परीक्षण	पश्चात परीक्षण
	Pre test	Mid Test	Post test
Mean	34/24	52/85	70/00



कक्षा – 5 (अध्ययन)

	पूर्व परीक्षण	मध्य परीक्षण	पश्चात परीक्षण
	Pre test	Mid Test	Post test
Mean	34/24	52/85	70/00



निष्कर्ष :–

क्रियात्मक शोध की कार्ययोजना क्रियान्वयन की अवधि में अध्यापक तथा बच्चों की रूचि, उत्साह तथा आनन्द का प्रदर्शन ही उपलब्धि का संकेत दे रही थी। मध्य तथा पश्चात परीक्षण के ऑकड़ों के विश्लेषण के उपरान्त निःसंदेह उत्साह बढ़ा है। क्रियात्मक शोध निष्कर्ष निम्नवत हैं–

1. अध्यापक तथा बच्चों के बीच की दूरी समाप्त हुयी।
2. अध्यापक प्रतिदिन नवीन शिक्षण अधिगम सामग्री निर्माण में रूचि लेने लगे है।
3. अध्यापक बच्चों की सहभागिता से टी0एल0एम0 का निर्माण करते है।
4. अध्यापक, के लिए टी0एल0एम0 निर्माण शिक्षण अधिगम प्रक्रिया के अन्तर्गत समझने लगे हैं।

5. अध्यापक तथा बच्चों ;दोनो में सृजनात्मक कार्यक्षमता का विकास हुआ है।

6. बच्चों के आत्मविश्वास में तथा स्वयं समस्या समाधान करने की क्षमता में वृद्धि हुयी है।

7. शिक्षण अधिगम प्रक्रिया बालक केन्द्रित हुयी है।

8. कक्षा शिक्षण प्रक्रिया में बच्वें स्वतंत्र रूप से सहभागिता करते है तथा टी0एल0एम0 एवं पिटारे का प्रबंधन कक्षा कक्ष में स्वयं करते हैं।

9. ग्राम शिक्षा समिति तथा विद्‌यालय प्रबन्धन समिति के सदस्यों की सक्रियता बढी है।

10. विद्यालय का शैक्षिक वातावरण आकर्षक एवं आनन्दयायी हुआ है।

सामुदायिक सहभागिता . ग्राम शिक्षा समिति तथा विद्‌यालय प्रबन्धन समिति के सदस्यों द्‌वारा टी0एल0एम0 निर्माण तथा पाठ्‌य सहगामी क्रियाकलापोंए बाल मेला के आयोजन में सक्रिय सहभागिता प्राप्त होने लगी है। दिनांक 20 मई 2006 को समुदाय द्‌वारा विद्‌यालय में बाल मेला का आयोजन किया गया। बाल मेला में अध्यापक तथा बच्चों द्‌वारा विकसित टी0एल0एम0 का प्रदर्शन किया गया।

कक्षा कक्ष में टी0एल0एम0 कार्नर का अवलोकन करते हुये बाल विकास विभाग के अध्यक्ष व राज्य मंत्रीए कर्नल बिष्ट तथा विद्‌यालय प्रबन्धन समिति की अध्यक्ष श्रीमती लता नेपाली।

विशेष :–

1. इस विद्‌यालय में राज्य परियोजना कार्यालय, उत्तरांचल की टीम, लखनऊ (उ0प्र0) की टीम, शिक्षा संसाधन केन्द्र भोपाल (म0प्र) की टीम, डेटामेशन रिसर्च टीम, नई दिल्ली की टीम, आई0एस0 एकेडमी मसूरी की टीम, जिला शिक्षा एवं

प्रशिक्षण संस्थान (डायट) देहरादून तथा जिला परियोजना कार्यालय, देहरादून द्वारा अवलोकन किया जा चुका है।

2. इस विद्यालय में आसपास के विद्यालयों के 100 से अधिक अध्यापक अवलोकन कर लाभान्वित हुए हैं।
3. दिनांक 10 जनवरी 06 से 19 जनवरी 06 तक प्राथमिक अध्यापकों के मास्टर ट्रेनर के लिए आयोजित प्रशिक्षण शिविर के 44 प्रतिभागियो द्वारा इस विद्यालय का अवलोकन कर लाभान्वित हुए हैं।
4. जनपद के विकासखण्ड कालसी तथा चकराता के सभी अध्यापक तथा शिक्षा मित्र इस विद्यालय का अवलोकन कर लाभान्वित हो चुके हैं।
5. **नीपा – नई दिल्ली** की डीपा टीम द्वारा दिनांक 19–10–2006 को विद्यालय का अवलोकन किया गया।

शोध कार्यानुभव – क्रियात्मक शोध आनन्द अनुभूति का साधन है।

PRIMARY SCHOOL TEACHERS' IN-SERVICE EDUCATION ON CLASSROOM TRANSACTION - AN IMPACT STUDY

K. Ramu

ABSTRACT

The present study focuses on the effectiveness of training programme in terms of gain in knowledge among the primary teachers and also to assess the impact of training on actual classroom training programme at DIET, Vizianagaram (Andhra Pradesh) constituted the sample of the study. The training was organized in the area of mathematics, language (English) teaching and general awareness under District Primary Education Programme (DPEP). Pre and Post-test design was followed for studying the impact of training programme. Their actual teaching in the classrooms was observed after a gap of one month of the training. The findings revealed that all the teachers gained in their knowledge in the area of mathematics, language and general awareness during the training programme. In aggregate, the relationship between gains of training and their classroom observations scores was found significant. However, a deeper analysis revealed that the gains of training were not fully utilized by the teachers while teaching particularly mathematics and English language. The teachers used mostly blackboard as the teaching aid during their classroom teaching. The science and mathematics kits were used but not to the satisfactory level.

1.0 INTRODUCTION

In-Service Education for Teachers (INSET) develops the capacity of Primary teachers, which in turn leads to improvement in the quality of school education. Effective INSET programme brings attitudinal change leading to enhancement in the level of motivation and commitment of teachers, which will consequently produce professionally competent teachers who are well proficient in different subjects and pedagogic skills. It also helps the teachers to act in the way that is favourable to the development of basic skills, understanding, desirable habits, values and proper adjustment of pupils. Enhancements in the level of awareness and modification s in attitude of teachers are the indicators of efficient and effective training programme. The other indicators of effectiveness of training programme may be wide range of trainees learning outcome. These may be gain in knowledge, refinement of requisite skills, desirable effect on their self-concept and attitude towards work, pupils and schools. Participants' satisfaction behaviour is also indicators of the effectiveness of training.

Among the factors, which contribute to the efficiency and effectiveness of in-service training the most important are adequate infrastructure facilities, availability of necessary equipments, appropriateness of the content, material, instructional approaches, methodology of training and competency of resource personnel. A classroom with sufficient teaching learning material create healthy environment for teaching process. It is evident that better classroom situation motivates the student to participate actively in teaching learning process.

The study entitled "Teacher policy, training needs and perceived status of teachers' conducted by the NCERT (Jangira, singh and Yadav, 1995) revealed that lack of academic support and incentive to+ teachers, inadequate facility for training, use of inappropriate approaches to the transaction of curriculum etc. affect the efficiency and effectiveness of training programme which in turn affect the performance of teachers in their schools. However, in-service education of teachers remains a field with the theoretical or conceptual roots and meagre research base. Hence only effective INSET programme can make the teachers professionally competent who in turn transact the curriculum efficiently in their classrooms. NPE (1986, 1992) also emphasized for providing in-service education to all the teachers regularly within a span of five years, so that they can improve their performances in actual classroom teaching.

In 1993, District Primary Education Programme (DPEP) was initiated in the country, for helping to achieve the target of UEE and also for improving quality of primary education. Under this programme training at various levels like DIET, BRC, VEC and schoolteachers was visualized for improving the quality of primary education. For making this training more effective, it is essential to know the impact of such training for getting feedback. Here an attempt was made to study the impact of primary teachers' in-service education programme organized by BRC, Vizianagaram (Andhra Pradesh) under DPEP and SSA on their actual classroom teaching.

2.0 OBJECTIVES

The specific objectives of the study were as under:

- To study the effectiveness of training in terms of knowledge among the participants.
- To assess the impact of training on actual classroom teaching by way of curriculum transaction.

3.0 HYPOTHESES

In order to realize the objectives of the study outlined above, the following hypotheses were formulated:

i) There is significant difference in the teachers' knowledge gaining before and after their participation in the training programme.
ii) There is significant difference in the teachers' knowledge gain both among male and female teachers before and after their participation in the training programme.
iii) There is significant difference in the teachers' knowledge gain belonging to both form rural and urban areas before and after participation in the training programme.
iv) There is significant difference in the subject knowledge gain between male and female teachers after participation in the in-service training programme.
v) There is significant difference in the subject knowledge gain between rural and urban teachers after participation in the in-service education programme.
vi) There is significant difference in the subject knowledge gain among teachers belonging to single teacher's school and multi grade school after receiving the training.
vii) In-service education training gains of teachers and their actual classroom teaching in term of curriculum transaction are significantly related to each other.

4.0 DESIGN OF THE STUDY

4.1 Sampling

All the 60 teachers who attended the training programme form11-19 August 2005 at Block Resource Centre (BRC), under DPEP/SSA scheme were selected for this study. The training was organized in the subjects of mathematics, language and general awareness.

4.2 Tools Used

The following tools were used for collecting the data. The content validity of first two tools were established on the basis of the experts' opinions.

i) Observation Schedule (OS): The observation schedule consisting of twenty items (five-point scale) related to classroom transaction was prepared to study the impact of training on classroom teaching.

ii) Achievement Test (AT): This test was prepared on the basis of training package and consists of 30 items. First twenty items are related to mathematics, the next four on Hindi language and the last six are on general awareness.

iii) Field Notes (FN): The notes were taken during the training programme and in the classrooms of teachers to assess the efficiency and effectiveness of training programme.

4.3 Procedure Followed

Pre and post-test design was followed in the conduct of study. The above tools were prepared, finalized and administered during the training programme for collection of data. The Achievement Test was administered on the first and last day of training for studying the impact of the training programme. The classes of all the teachers were observed after the gap of one month of the training to study whether the training strategies were actually used by trained teachers in the classroom teaching or not. The classes were observed with the help of resource persons who had provided training to the participants.

4.4 Statistical Analysis

The data were scrutinized before applying the statistical techniques. Descriptive statistics (percentage) were used for analyzing data with regard to teachers/resource persons' perception, etc., 't' test was used for studying the efficiency and effectiveness of training programme in terms of gains of knowledge among the participants. For studying the significance of difference on the achievement of training in terms of Sex, Location, Type of schools, t-test was used. The Pearson co-efficient of correlation was computed to study the impact of training in the actual classrooms. The results are summarized in Table 1 and Table 2.

Table 1: Training gain scores (Area wise)

S.No.	Subject	Area	No. of teachers	Mean	S.D.	T-Value	Significance
1	Aggregate	Urban	40	11.1	4.618	2.1	Significant at 0.05 level
2		Rural	20	8.65	4.056		

Table 2: Relationship between Gain in Training and Classroom Observation Scores

S.No.	Variables	Correlation (r)	Significant level
1	Maths	0.1896	Not significant
2	Language	0.133	Not significant
3	General Awareness	0.3227	Significant at 0.05
4	Aggregate	0.2688	Significant at 0.05

5.0 FINDINGS

i) The study revealed that there is a significant difference in achievement scores on pre-test and post-test on mean scores which are significant at 0.01 levels. Thus the hypothesis that there is a significant difference in the teachers' knowledge gaining before and after their participation in the training programme was accepted. From this, it was inferred that there was a gain in the knowledge among teachers in mathematics, language, and general awareness and also in totality during training.

ii) the t-value were found to be significant in case of Maths and Language but not significant in case of general awareness. The interaction during general awareness session was observed of low level in comparison to mathematics and language sessions. It may be an indication of low level of interest of maintenance about various issues related to general awareness. The hypothesis there is significant difference in the teachers' Knowledge in the training programme accepted.

iii) The hypothesis that there is significant difference in the teachers' knowledge gain belonging to both form rural and urban areas before and after participation in the training programme was accepted. It means teachers belonging to rural areas gained during the training programme.

iv) The study revealed a significant difference in the subject knowledge gain between male and female teachers after participation in the in-service training programme. When examined subject-wise, i.e. maths, language and general awareness, it was also found not significant.

v) The hypothesis that there is significant difference in the subjected knowledge gain between rural and urban teachers after participation in the in-service education programme was accepted, the difference was found to be significant at 0.05 level. It means the teachers belonging to urban areas gained more during training programme as compared to teachers belong to rural area.

vi) The study indicated that t-values are not significant on training gain scores. It means teachers belonging to single teacher and multi grade situation did not show any difference in academic achievement. The teachers from both types of schools gained equally during training programme.

vii) The results in terms of Pearson's co-efficient of correlation indicated that the in-service training gain scores of teachers and actual classroom teaching in terms of curriculum transaction are significantly related to each other. It means that in-service training of teachers had an impact on the curriculum transaction in actual classroom transaction in totality. The contributing factor for significant correlation between gains in training and classroom observation was related to general awareness. The non-significant correlation in respect of mathematics and language teaching as given in the Table 2 revealed that learning during the training programme related to their subjects were not used in the actual classroom teaching.

6.0 IMPLICATIONS

1. The need based training material, competent resource persons, and appropriate transactional approaches will lead to an efficient and effective training so that training gains can be used maximum by way of their classroom transactions.
2. More and more effective in-service training programmes should be organized regularly for the primary teachers for improving their quality and professional competence.
3. We can assess the impact of teacher training only by observing the classroom teaching. Further research should be undertaken by getting feedback from students about their teaching behaviour for improving the teacher-training programme.
4. Continuous feedback and follow-up system should be developed to make classroom behaviour more effective otherwise the trained teacher may relapse in to their original teaching behaviour.
5. Studies using more sophisticated research design and analysis need to be undertaken in this area.

Research on impact of training on classroom teaching is scanty. The actual position that teaching occupies in the total educational process is not reflected in the amount of research produced in this area. The research effectors and institutions conducting research in education should divert attention in this area. Institutions supporting research in education should give priority to this area while allocating funds for educational research.

7.0 REFERENCES

- McLaughlin, M.W. and Berman, P. (1984). Retooling staff development in a period of Decline, Educational Leadership, 36.
- Vashist S.R. (1999, 2000) "Classroom Administration" ANMOL Publications Pvt.Ltd. New Delhi.
- Jangira, N.K. Singh, Ajit and yadav, S.K.(1995). Teacher Policy, Training Needs and Perceived Status of teachers. New Delhi: NCERT (Mimeo).
- MHRD (1986, 1992). National Policy on Education, New Delhi: Govt. of India.

PARENTAL PARTICIPATION AND ACADEMIC IMPROVEMENT: A STUDY WITH DISABLED PRIMARY SCHOOL CHILDREN

N. Nammalvar

ABSTRACT

Teaching a disabled child entails more responsibility on the part of the parents and teachers. Parental involvement in academic activities of the school would influence the child's acquisition of academic skills necessary for successful adulthood. Participation of the parents' fosters better motivation and academic success in a disabled child. Academic success has a linear relationship with parental participation in modern education. Following the Nietzsheian axiom, parents differ widely in their preparedness to monitor the academic needs of the children and their ability to withstand the often unrewarding and inadequate learning of the child. The participation was variously influenced by the socio-demographic and personal variables of parents.

In this study of primary school children in Thirumangalam Block in Madurai district, under Sarva Siksha Abhigyan- Inclusive Education of the disabled, a group of 20 children with mild mental retardation were selected as the study group? A group of another 20 children were kept as 'control group'. A third group of 20 children formed the 'placebo group'. All the children were within the age group of 8 to 10 years with equal gender distribution.

All the parents from the 'study group' were seen by the special educator once in a fortnight in groups of 10. They were all told to help the child in home exercises and also help the child to understand the lessons he learnt in the school. The pre and post intervention marks of the child were taken as an indicator of academic improvement. The school attendance, marks in languages, mathematics and other subjects were taken as parameters for change. The t-test was used to understand the significance of the difference in the performance.

The results showed that there a uniform improvement in the academic achievement of all the children in the study group. In all the subjects there was significant improvement. The attendance of the children was also regular. These academic changes were followed by increase in the child's participation in the extra curricular activities, teachers' perception of the student, and also the social participation of the children. Parental confidence also showed significant changes.

**Study carried out by Institute of Rehabilitation Sciences (Sadhana Trust) under Sarva Siksha Abhigyan-- Inclusive Education for the Disabled, Madurai District.*

1.0 INTRODUCTION

1.0 INTRODUCTION

"A family of five is like five people lying on a water bed. Whenever one person moves, everyone feels the ripple" said Lovie (1995).

This statement of Lovie is a decade old. Yet it is more applicable to any family with a disabled child today; more so if one among the five is a mentally retarded person.

A child with mental retardation causes tremendous emotional problems to parents. The child is in the school for a few hours a day; in limited and controlled situation.. But for the parents it is 24 hours a day, seven days in a week, with no vacation, in all kind of situations and with all type of demands. The economical, psychological and social burden of a retarded child is more than any other disabled children observed Kapur, (1994).

Despite this burden, parents of the child can play a crucial role in helping the child for better quality education. As Turnbull (1997) puts it "first parents must be informed consumers, continuously working to learn more about the baffling problem (disability)". They must become assertive advocates, seeking the right programme for their child at home, at school and in community. They must be firm in managing the child's behaviour while remaining empathetic to the child's feelings, failures, fears and tribulations.

Parenting a disabled child is challenging task. It can also be rewarding says Lerner (1997). Parents need support form the school, the extended family, other professionals and physician. With the support of appropriate professionals, encouragement and sharing experience, the child can emerge successfully from the school years academically, emotionally and socially intact. Appropriate education may make him well prepared to face the challenges ahead in adulthood (Gallagher, 1995).

The Constitution of India had made primary education is compulsory for all citizens. Most of the disabled children within the age group of 6-14 are enrolled in normal schools under the Inclusive Education of the disabled component of Sarva Siksha Abhigyan. Quality of education is also emphasized. This quality needs the involvement of various professionals and family members. The cooperative efforts of the student, teacher and the parents, figuratively representing an equilateral triangle are needed for adequate educational achievement of a student. However in the case of a disabled child, the student, teacher, parent and the special educator, figuratively representing a square is vital for the educational achievements of a disabled child.

Various Indian studies have shown that academic achievements of children are function of the cognitive style and family environment. Srivastava and

Chandiramani (1995) found that students form structured as well as independent families tend to perform better compared to other children. Bhan (1995), highlighted the role of parents in the education of a special child, revealed that the coping resources and strengths would be enhanced if parents maintain a normal life style as possible and seek help form the special educators, psychologists and child welfare organizations. In other words the study revealed that increased parental participation results in better academic achievements. Sandhya (1998) examined the role of socio-economic statues, interest and adjustment in the academic achievements of girl students. Pande et al (2006) showed that temporary parental deprivation leads on to poor academic achievement.

Due to the living conditions and economic causes, many parents of the disabled children are unable to participate in the educational process of their children. Many of them are not attending parental-meets of the school just because they are unable to forgo one day's wages as it may lead to the starvation of other children in the family. Any disable child is dependant on the parents for completing their home assignments and review of lesions at home. These children's academic achievements are poor. Any parent, be it father or mother, can be source of motivation for better academic achievements. The base of the present study emerged when many of the mentally retarded could not perform even at the minimal optimal level in the examinations. Keeping this fact in view, the present study was undertaken in Thirumangalam and Alanganallur blocks of Madurai district Tamil Nadu under the inclusive education component of Sarva Siksha Abhigyan.

2.0 OBJECTIVES

The objectives of the study were:

- To compare the level of academic achievement of the students in whom parents participated in the educational process with a group of students in whom the parents were not participated in the educational process.
- To find out whether male and female students differ in their achievements when the parents participated in education.

3.0 HYPOTHESES

i) The students in the study group will show significantly better achievements than the students of other two groups.

ii) The students of the control group and the placebo group may not differ in their level of academic achievement.

iii) Boys and girls will show equal achievement levels in the study group.

4.0 MATERIALS AND METHOD

Sixty children with mild mental retardation who were enrolled in the primary schools of Vadipatti, Thirumangalam and Alanganallur blocks of Madurai District, Tamil Nadu formed the sample for the study. They were divided into three groups: the study group, the placebo group and the control group. There were 20 children in each group with 8 females and 12 males in each group. The Intelligence Quotient of all these 60 children ranged form 58 to 63 as assessed through Binet-Kamath Test of Mental ability.

Children with severe behaviour problems such as aggressive behaviours were excluded. Eleven children had Down's syndrome and 13 had history of Generalized Seizure disorders. Seventeen of these children were on mild anti-psychotic drugs and night sedation.

In the study group the parental participation was sought to improve the child's academic achievements. All the 20 parents were initially briefed on the need to involve themselves for the academic success of the children. Four members who expressed their inability to regularly attend the counselling sessions were excluded from the study and another four were added in their place. All the twenty are mothers. All have completed 8th standard and they are house wives. Their husbands are either employed in government services or in private firms. Seven of tem were living on daily wages.

All the 20 members of the study group were divided into two groups of ten members each. The meetings of the group were held once in a fortnight. During these meetings the nature of the child's disability, future needs of the child, academic requirements and problems pertaining to the children were discussed. The Special Educator of the Block acted as moderator. The Clinical psychologist was invited as an honorary consultant, once in two or three meetings. Academic limitations of the children, management of academic problems, methods of teaching a retarded child and the role of positive rewards were discussed. Parents were told to avoid corporal punishments to a maximum extent.

In the placebo group similar meetings are arranged in groups of 10, once a fortnight. But the discussions during the meetings centered on a news item of a Tamil daily news paper "Dinamalar" instead of the problems of the disabled child.

For the control group no such meetings were arranged.

At end of three and five months the academic performance of these three groups were compared. The attendance, marks secured in the various subjects and behavioural problems if any were compared using Student's 't' test of significance.

Table-1: Socio-demographic and Personal Details of the Three Groups

Sample characterizes	Control group	Placebo group	Study group
Sex			
Male	12	12	12
Female	8	8	8
Age			
8-9 yrs	4	6	6
9-10	6	6	7
10-11	10	8	7
Class			
III standard	11	8	9
IV standard	9	12	11
Family type			
Joint family	14	16	15
Nuclear family	6	4	5
Background			
urban	0	0	0
Semi Urban	2	5	4
Rural	18	15	16

Table-2: Academic Achievement Before and after Intervention I the Control Group

Sl. No	Variables	Before intervention		After intervention		't' value
		Mean	SD	Mean	SD	
1	Percentage of School Attendance	69.61	9.41	68.41	10.11	1.26
2	Curriculum					
	• English	33.72	7.91	32.72	8.94	1.31
	• Tamil	49.37	6.61	44.37	8.61	1.14
	• Mathematics	20.87	7.71	19.87	5.71	1.23
	• Science	29.73	5.33	32.73	6.43	2.12*
	• Social Studies		6.58		7.38	1.31

Sl. No	Variables	Before intervention		After intervention		't' value
		Mean	SD	Mean	SD	
		33.23		31.23		
3	Co-Curricular					
	• singing	nil	nil	nil	nil	nil
4	Extra Curricular					
	• Sports Events	5,10	0.87	4.23	1.31	0.93
	• Competitions	1.00	1.00	2.16	1.02	1.34
5	Socialization					
	• Number of Friends	4.32	2.61	4.31	2.23	0.91
	• Time spent with friends	1.28	0.31	1.62	1.21	1.27
	• Social visits	3.41	1.20	0.54	0.72	2.13*

* Significant at .05 level

Table-3: Changes in the Academic Achievement among the Placebo Group (N=17)

Sl. No	Variables	Before intervention		After intervention		't'value
		Mean	SD	Mean	SD	
1	Percentage of School Attendance	72.61	10.41	79.73	7.62	2.21*
2	Curriculum					
	• English	36.72	16.94	41.81	10.73	2.13*
	• Tamil	51.37	13.61	54.53	11.74	1.41
	• Mathematics	51.76	4.61	50.46	4.67	1.41
	• Science	43.73	6.43	41.42	5.45	2.28*
	• Social Studies	37.23	7.38	45.19	7.12	1.41

3	Co-Curricular • Dance • singing	00 2	0 1.2	01.0 2 11.1 3	0.7 6 1.0 5	2.14
4	Extra Curricular • Sports Events • Competitions	4 2.16	1.3 1.02	11 6.57	0.7 9 2.3 1	2.15* 2.49*
5	Socialization • Number of Friends • Time spent with friends • Social visits	4.31 1.62 0.54	2.23 1.21 0.72	7.31 2.87 5.24	3.2 2 1.4 5 1.3 1	1.61 1.14 1.54

* Significant at .05 level

Table-4: Changes in Academic Achievement before after Intervention in the Study Group.

Sl. No	Variables	Before intervention		After intervention		't' value
		Mean	SD	Mean	SD	
1	Percentage of School Attendance	89.7 3	7.62	72.6 1	10.4 1	
2	Curriculum • English • Tamil • Mathematics • Science • Social Studies	44.3 454. 53 35.2 6 43.4 2 43.1 9	03.1 3 11.7 4 6.34 5.45 7.12	46.0 0 58.3 7 37.8 7 51.7 3 46.2 3	1.98 13.6 1 8.71 6.43 7.38	2.57 * 2.15 * 1.64 2.94 * 2.53 *

3	Co-Curricular					
	- Dance	1.01	0.76	3.21	1.02	2.49 *
	- Singing	11	1.05	4.61	1.2	2.77 *
4	Extra Curricular					
	- Sports Events	11	0.79	4	1.3	1.97
	- Competitions	6.57	2.31	2.16	1.02	
5	Socialization					
	- Number of Friends	4.31	3.22	7.31	2.23	2.91 *
	- Time spent with friends	2.87	1.45	2.62	1.21	1.47
	- Social visits	1.24	1.31	3.54	0.72	2.86 *

* Significant at 0.05 level

5.0 RESULTS

The social demographic patterns of the students reveal that these groups are comparable. There is a male preponderance in all the groups and children from the joint families are more. Similarly as study was done in a rural setting, urban population is totally absent.

It is also clear from the results that the academic performance of the study group in general has improved significantly. The mean in the general attendance, and marks in all the subjects showed significant improvement when compared with the control group. The same is also noted when the score are compared with the placebo group. The same is noted in the social participation also.

For the placebo group too there are changes in the attendance, marks in the subjects. Significant changes are seen only for languages, attendance and science. But for the subjects the changes seen are not significant. Similarly in the curricular and co curricular activities also the changes are not significant.

For the control group no change was seen in the subjects and co-curricular activities. However there is slight change in the attendance of these children.

6.0 DISCISSION

Academic achievement of a student is decided by multiple factors such as family and school environment, teachers and methods adapted by them, structure of the family, and help by the family members. The present study was a modest attempt to see the effect of parental involvement in the academic achievement of the students. The hypothesis that the parental involvement will make definite effect on the academic achievement on both boys and girls was accepted. This was tested and analysed using the achievements of the students in all the three groups. Significant achievement was seen in the study group. The achievements in the control group and the placebo group do differ, but the difference was not significant. Parental participation has two dimensions, namely mere participation and participation with focus on educational process. In the placebo group the parents participated but there was no focus. In the study group there was parental participation and focus on academics. Both these might have caused the changes.

Parent, especially the mother is the first teacher to the child. But after entering school the mother takes a secondary role. Even after school hours, she has significant role to play in strengthening what the child had learnt in the class room. This is clearly seen from the outcome of this study. Ancient education system of India had not given any role for parents in educating the children. Usually the child is sent to a 'gurukul' at the age of 5 and he comes home after completion of his education; usually at the age of 16 years. The teacher takes over the task of educating the child in total. The parents may not even visit the child. Perhaps the people in India are not aware that they have a role to play in their child's education. Modern education is different. It does need the participation of the parent for optimal academic performance of the child.

Similar findings were reported by Pande et al (2006). In a study with children of Army personnel Pande et al reported significant academic loss because of temporary parental deprivation. However this study is based on non-disabled population. For a better academic achievement parents must become aware of the curriculum of the school, the content of teaching and to some extent about the methods of teaching. Parents do play a supplementary role in the education of the child. In the study group, group sessions are organized. Parents were given useful inputs on the nature of mental retardation, its limitation on education, future needs of children and educational methods for the mentally retarded. The parents are made aware of the child learning, and the methods of facilitating learning at home. They also received inputs on the principles of behaviour. These would have helped the parents in motivating the child at home, correcting errors in learning. The better motivated child shows better learning. Mothers role seem to be better. Perhaps most of them are house-wives and could spend time with the child. The literary status of the mothers would be an advantage for the better outcome. The same is observed in the placebo group as well as the control group. This means that parents' participation in the form of revision of the learnt material is a successful strategy for better academic achievement.

The progress is not limited to curricular content alone. The co-curricular and extra curricular activities also show marked changes. This may be due to a better self confidence and self-esteem of the child. The child's increased confidence might have lead to better social participation and socialization. Parents too would have permitted the child in its initiatives for better socialization.

The role of motivation on the part of the child in the improvement of the academic performance cannot be over-ruled. Parental participation might have worked through better motivation, increased self confidence and self-esteem of the children.

Today everyone around the globe talks about inclusion in education. But the inclusion may be just physical. The fact that the Tamil Nadu state had enrolled 1, 25,000 children in to schools shows that it has achieved physical inclusion. But mere enrolment is not enough. The enrolment fulfils only for physical inclusion. What happens after enrolment is important. Psychological inclusion must take place. The child must be accepted by the peer group, teachers and neighbours. The data available from this study showed that there was an increase in the number of friends. This means that children in the study group had reached the second stage of inclusion, i.e. the psychological inclusion.

Similarly the increase in the social participation showed that social inclusion is also happening for children in the study group. This is what the inclusive education needs ultimately.

Inclusive philosophy speaks about the quality of primary education. Government of India in its declaration too indicated on the need for quality in education. However, programme for the parents are not explicit. Perhaps they would have left it to the implementing agencies as they are the key members who are aware of the field realities and requirements. Implementing agencies with professional approach are few. Programme involving the parents may be the need of the hour to ensure quality primary education. This may help us to improve the quality of the primary education under SSA.

Can we conclude that with parental participation alone will be sufficient? The answers may not be that easy. Parental participation is one aspect needed for inclusion. This study had proved that parent's participation is necessary for quality in education. Sustainability of the results of the study may be a valid doubt in the mind of any socially sensitive person. The authors have no direct answer for this question. Only further observation and a course of follow-up activities may offer reliable answers.

Acknowledgements

The authors express their sincere thanks to Shri S Vijayakumar IAS, State Project Director, Sarva Siksha Abhigyan, Tamil Nadu, Dr Rama Pandurengan, District Programme Coordinator (SSA) Shri S Masanam, Assistant District Programme Coordinator Madurai District and Shri S Balamurugan and Shrimathi W Mary Jayaleela Special Educators for their cooperation and assistance in the collection of data and carrying out the programme

7.0 REFERENCES

- Bhan S (1995) Parental role in the life of a special child, Disabilities *and impairments* 9, 37-43.
- Gallagher, N. (1995) The impact of learning disabilities on families, *Journal of child neurology,* 10(suppl 1) S112-S113
- Janet W. Lerner (1997) Learning Disabilities: Theories, Diagnosis and Teaching strategies, New York, Houghton Mifflin Company
- Kapur, R.L (1994) A Scale to measure Family burden of mental illness, *British journal of Psychiatry,* 124, 1114-1119
- Lovie, R. D. (1995). Life on the Waterbed. Main-streaming on the home-front. Attention 2 (1) 25-29
- Pande, V. Rathee, S.P., Saini, R., Chaudry, S & Baberwal, N> R. (2006) Effects of temporary parental deprivation on Academic achievement of school children, *Indian Journal of Clinical psychology,* 33, 127-133
- Sandhya (1998) as quoted Pande,V. Rathee, S.P., Saini, R. Chaudry, S & Baberwal, N, R. (2006) effects of temporary parental deprivation on Academic achievement of school children, *Indian Journal of Clinical psychology,* 33, 127-133.
- Srivatsava, U. and Chandiramani, R.K. (1995) Scholastic achievement as a function of cognitive style and family environment, *Psycho lingua,* 25, 61-64.
- Turnbul, A.P, & Turnbul R H (1990) Families, Professionals and exceptionality: A special partnership, New York, Merrill

PERFORMANCE OF A STUDENT-TRAINEE OF PRE-SERVICE TRAINING CLASS IN THE COMPETENCY-BASED TEACHING-LEARNING

Snehamayee Senapati and Kartikeswar Behera

ABSTRACT

The study deals with the case of a pre-service student trainee of DIET, Khallikote who showed excellent performance in the competency-based teaching learning process, choosing competencies for the lessons, sequencing the activities according to the competencies, preparation and use of competency-based teaching learning materials. There are specific attributes of the student-trainees for which her lessons were Grade 'A' and she also scored high percentage of marks in Annual CT Practical Examination conducted by the Board of Secondary Education, Orissa, Cuttack.

The study highlights on the art of preparing competency-based lesson plan by Ms. Nilima Sahoo and her skill in transacting the lesson.

1.0 INTRODUCTION

Competency-based Teaching Learning is put into practice since 2002 in DIET, Khallikote after the introduction of Minimum Levels of Learning. The pre-service student trainees who join the two-year Teachers Certificate Course after +2 Arts / Science have to deliver 33 lessons out of which 25 mono-grade lessons and 06 multi-grade lessons excluding two criticism lessons (one from mono-grade and one from multi-grade).

It is mandatory for each pupil teacher to observe 80% of the demonstration lessons given by the Teacher Educators dealing with the concerned method. After observing, he / she are required to give criticism lessons (one mono and one multi) for necessary correlation during transaction of the lessons. After the criticism lessons are transacted he / she goes for practice lessons which are being observed by the method teachers and other Teacher Educators. Using a five point-scale, lessons are graded and constructive comments for the enrichment in the preparation and transaction of the lesson plans are obtained.

After observing transacted lessons of 50 pre-service student trainees, the names of the trainees on the basis of their performance were short-listed. Among the short listed trainees Ms. Nilima Sahoo, heads the list in respect of her preparation and transacted competency-based lesson plans. On the basis of this the Researchers decided to take up the study on her performance in the competency-based teaching learning.

2.0 OBJECTIVES

- To examine the competency-based lesson plans transacted by Nilima Sahoo in terms of quality.
- To discuss her performance in other related areas and factors that contributed for her excellence performance.
- To disseminate the findings among the next batches of pre-service student trainees for enriching their competencies in practice teaching.

3.0 ABOUT COMPETENCY-BASED TEACHING LEARNING

i) The lessons must contain specification of competencies to be dealt.
ii) It must reflect the use of teaching learning materials competency-wise.
iii) Teacher's activity and learner's activity must be clearly mentioned.
iv) Activities must be specified for individual work / pair work and group-work.
v) Competency-related questions are to be asked.
vi) There should be scope for individual involvement of learners.
vii) There should be scope for remediation through peer assisted learning in the group.
viii) Spirit of competition (who can complete the work first) feeling of joy must be reflected in group work.
ix) Evaluation question should be reflected according to the specification of competencies.
x) The transaction of the lesson plan must be completed within the time allotted covering competencies taken for the period.

3.1 Tools Used for Grading the Lesson and Score of Nilima Sahoo in 90% of the Lessons

(The Supervisor should respond to the Statement by encircling the number)

5 : Excellent 4 : Very Good 3 : Good 2 : Average 1 : Needs Improvement

3.1 Tools Used for Grading the Lesson and Score of Nilima Sahoo in 90% of the Lessons

(The Supervisor should respond to the Statement by encircling the number)

5 : Excellent 4 : Very Good 3 : Good 2 : Average 1 : Needs Improvement

1.	Specification of competencies	1	2	3	4	[✓ 5]
2.	Manner of Introducing the Topic	1	2	3	4	[✓ 5]
3.	Sequencing the learning activities according to the competencies	1	2	3	4	[✓ 5]
4.	Presentation of the learning activities	1	2	3	4	[✓ 5]
5.	Use of teaching learning materials	1	2	3	[✓ 4]	5
6.	Questions asked for classification of doubts	1	2	3	4	[✓ 5]
7.	Grouping the students for peer assisted learning	1	2	3	4	[✓ 5]
8.	Ensuring individual participants	1	2	3	4	[✓ 5]
9.	Scope for remediation	1	2	3	4	[✓ 5]
10.	Competency-based evaluation question	1	2	3	[✓ 4]	5

Maximum Scores	**Scores Obtained**	**Percentage**
50	48	96

4.0 STATEMENT OF NILIMA SAHOO

Constant correlation of the lesson plans by the Teacher Educators and my consistency in designing the Lesson Plans helped one to rise to the expected level. Particularly in English language the significant contribution of Kartikeswar Behera, Teacher Educator is admitted from the core of my heart.

Similarly in preparing the Lesson Plans in other subjects the contribution of other Teacher Educators helped me to achieve success.

I am quite thorough in designing activity-based lesson plan because of the dedicated work of all the Teacher Educators of this DIET.

Statement of Ms. Bidulata Mishra, Teacher Educator about the Performance of Ms. Nilima Sahoo:

She is not only useful for the pre-service student trainees but also during in-service training programme. The expertise of Ms. Nilima Sahoo is properly and profitably utilized in the transaction of competency-based lesson plan in English, MIL (Oriya) and Science. The participants of the in-service training programme have great admiration for Nilima relating to her skill in designing and transacting the competency-based lesson plans. Her lesson plan are Xeroxed and distributed among the participants for using them in day to day classroom transaction.

Annexure

Profile of the Student Trainee

1.	***Name***	:	**Ms. Nilima Singh**
2.	***Father's Name***	:	Shri Gangadhar Sahoo
3.	***Profession of Father***	:	Teacher ship
4.	***Profession of Mother***	:	Housewife
5.	***Home Address***	:	At/Po : Khallikote, Dist : Ganjam
6.	***Date of Birth***	:	11.07.1985
7.	***Qualification***	:	+2 Science
8.	***Division***	:	First
9.	***Duration of the Course***	:	02 Years
10.	***Total No. of Practice Lesson Delivered in Mono and Multi-grade***	:	48
11.	***Average Grade in the Lessons***	:	'A'
12.	***Role in co-curricular activities***	:	Very Good
13.	***Grade Secured in Project Work***	:	'A'
14.	***Performance in the Annual CT Examination***	:	She ranked the seventh position in the state in the examination conducted by the Board of Secondary Education, Orissa.

Performance in Preparation of the Lesson Plan and its Transaction of the Lesson :

Practice Teaching, 2005-2006

Total No. of Lesson Delivered	**Grade Awarded**	**Percentage**
48	`A'	95

Practical Examination, 2006

Method	**Full Marks**	**Marks Secured**	**Percentage**
Mono-grade	75	74	98
Multi-grade	75	73	97
Preparation of Theory	50	48	96
Total	**200**	**197**	**98**

5.0 FINDINGS

i) Ms. Nilima Sahoo has thoroughly understood the basics of competency-based teaching-learning.

ii) She could match the activities with the TLMs which helped for effective transaction.

iii) She sequenced the activities according to the competencies.

iv) She could involve the individual learners during transaction of the lesson.

v) She gave scope for remediation of the slow learners.

vi) She is thorough with the skills of questioning.

vii) In early part of lesson transaction she sought for the guidance of the teachers for necessary correction in the lesson.

viii) She is good at preparing improvised teaching aids (low-cost and no-cost).

ix) She also helps her friends in preparation of the competency-based lesson plans.

x) She has demonstrated a number of lessons.

6.0 IMPLICATION FOR FURTHER STUDY

- Lesson Plans prepared by Ms. Nilima Sahoo can be used by others as Model Lesson Plan.
- Her expertise can be utilized by the nearby primary schools so far as competency-based teaching learning is concerned.
- The next batch of pre-service student trainees should follow her path.
- The teacher community should try to develop the teaching skill among their students.

CLASSROOM APPLICATION OF FOLK GAMES IN DEVELOPING COMPETENCIES AN INTEGRATED APPROACH

V. Mohanachandran

1.0 INTRODUCTION

Improving the quality of education for all learners at elementary stage continues to be a matter of serious concern in Kerala. It is hoped that implementation of activity based and child centered curriculum will go a long way in shifting the emphasis from content to process of learning. For this learning process have to organised in such a manner so as to make the classroom lively and learning enjoyable for children.

DIET Thiruvananthapuram has been conducting in-service training for equipping the teachers for the successful implementation of the activity oriented and competency based learning. During training the teachers admit the necessity of using improved teaching methods. 'Games for Learning' was an important module included in all teacher training courses. Practical experience to develop tryout and use games for instructional purpose has been gaining teachers during their in-service course in DIET. The idea of learning by playing and the role of games and activities in effective learning were highly appreciated by teachers who have undergone training. But it was observed that only a handful of teachers were found using the play way method for developing competencies. And others were found comfortably or conveniently neglecting these games totally after training due to the following reasons:

1. Teachers believe that most of the games are not familiar to children so it would be a strange experience for the pupils.
2. They suspected whether the game would have positive effect in learning process.
3. The teachers also feel it difficult to plan suitable learning activities based on play/games.

In this context, the investigator though it worthwhile that if certain activities are designed based on very familiar folk games both the teachers and students will find them interesting and enjoyable.

2.0 OBJECTIVES

The over all objective of the present study was to identify and use folk games for developing competencies and helping teachers to recognise their importance for joyful learning were:

The specific objectives are:

- To identify folk games familiar to children and provide suitable learning experiences based on them.
- To find out the possibilities of applying folk games in motivating children to learn.
- To utilize the same folk game for developing different competencies in curricular areas of Language, Mathematics and Environmental studies.
- To install in teachers and pupils the value of our rich culture, traditions, customs and practices.

3.0 DELIMITATIONS OF THE STUDY

The study was limited to Standard II. More over the games developed for instructional purpose were mainly intended for reinforcement of learning.

3.1 Duration of the Project

The duration of the project was 3 weeks, utilizing 15 hours of regular teaching periods to conduct the study.

3.2 Integrated Approach

An integrated approach was used as a strategy for reinforcing competencies. Integration was done in several ways. The same game was played with slight modifications to reinforce competencies in curricular areas of Language, Mathematics and EVS. While playing games, materials found in the local environment such as seeds of tamarind trees, small fallen tender coconut etc. were used for reinforcement of learning. Moreover competencies related to different subjects were reinforced by adopting an integrated approach. For example, game 3 was played wearing letter cards and word cards (Language) number cards and addition fact cards (Mathematics), picture cards of various occupations and tools (EVS).

4.0 FOLK GAMES AND THEIR INSTRUCTIONAL ADAPTATION

Kerala has a rich tradition in folk games and folk art forms. The folk games and folk dances of Kerala have the great virtue of maintaining their original association with singing. Vallamkali (Country boat race) at Aranmula is a typical example.

Kaikottikkali, Thiruvathirakkali, Pazhukka Kali, Pooperukkan Porunno etc. are also notable in this respect.

Out of innumerable folk games the investigator have developed and tried out four of them for instructional purpose. They are :

a. PAZHUKKA KALI
b. THOLIDAL KALI
c. POO PERUKKAN PORUNNO
d. DAPPAKALI

Folk Game I

PAZHUKKA KALI

'Pazhukkakali' is a folk game played almost all over Kerala, especially in the period of Onam Festival. 10 to 15 players sit round. One player sits in the middle, whose eyes are covered with a handkercheif. This person may be called "blind". A ripe Arecanut is passed among the sitting players from hand to hand. These players sing the following lines.

> "Avar kayyilaivarkayyilo Manikya Chempazhukka
> Pazhukka karangunnunde manikya chempazhukka
> Odunnunde Odunnunde manikya chempazhukka
> Pottane kanaruthe manikya chempazhukka"

The meaning of the lines is as follows.

"O the nut is in their hands. It is here oh, it is there. The nut is moving..........The nut is moving don't show it to the blind............."

The player with covered eyes has to find out in whose hand the nut is, for that he revolves to examine each fellow's hands in the circle. From whose hand the nut is found out should become the next middle player.

The Instructional Game
(I) Language.
Material required: Pencil
Description of the Activity:

The original game is being transformed to suit Language learning as follows. The entire class can be divided into two groups. 15 Children are players others can observe. Fourteen players will sit round and one will sit in the middle of the circle. Instead of the nut a pencil or a ball can be used. The moderator or the teacher gives a pencil to a student in the circle. Then he directs the players to circulate the pencil or the ball to the next player as soon as the middle child gives the starting whistle. The pencil is to be circulated until the middle child gives the next whistle. At that time the pencil will be in the hands of a player and that player should not pass it until the middle child announces a letter of the alphabet. For example 'Tha' in Malayalam. If the middle player says ('Tha') (or any letter) the child with the pencil should pass it to the next and should begin saying as many words as he can, beginning with 'Tha' (For eg. Thara, (Floor), Thala (Head) simultaneously. He should say minimum 5 words other wise he will be out from the circle and will be made the 'Blind'. Then the former; middle player will go to the vacant place. This game can be used for English learning also. If the middle player say the alphabet 'B' the player holding the pencil or ball at the time of whistle may say 5 words beginning with 'B' i.e, Bus, Ball, Bag, Boat, Bat etc.

The same process will be repeated. New letters will be announced. Repetition of words is not allowed, even though the same letter can be repeated.

This game can be played in another way also. The player who cannot say five words will be thrown out of the game. This will decrease the number of players. Number of words should also be decreased accordingly.

In language (Malayalam) it is played as a word game. Here the student recalls so many words and it will enrich his/her vocabulary.

Competencies

Pronounce all sounds of the language and vocabulary control are the competencies developed.

(II) Mathematics:

Number of students, arrangements etc. are the same.

Here the "blind one" whistle and says a number below18. The pencil holder has to say the story of the number (the added two numbers to get the pronounced number as answer). The numbers used for addition should be limited to three. Example-if it is 12. The child should say any three of the following.

11+1=12, 2+10=12,3+9=12,4+8=12,5+7=12,6+6=12
Multiples of 2,3,4,5, and 10 can also be reinforced using this game.
The tried out competencies are :

- Adds two numbers mentally between 0-18 with the sum not exceeding 18.
- Knows mentally and in writing the multiplication tables of 2,3,4,5 and 10.

(III) **Environmental studies (EVS)**

The same procedure explained earlier is sufficient for this game in EVS. After giving whistle to stop, the 'blind' says any one of the sources of food products. For example-plants, animals, vegetable, fruit etc. The pencil holder has to give names of items of the particular category. If it is Animal the pencil holder at the time of whistle has to say 1. Lion, 2. Dog, 3. Cat, 4. Tiger, 5. Cow.

If public institution is the topic selected for play the pencil holder has to say different items related to the particular institution. Suppose the middle 'blind' mention 'Hospital'. Then the pencil holder has to say any five words related to Hospital. For example 1. Doctor, 2. Patient, 3. Medicine, 4. Injection 5. Nurse etc.

Competencies:- 1. Understands the need of food for health
2. Identifies important public places/institutions

Folk Game II

THOLIDAL KALI

This play is very common in southern Kerala. It is being played by children in villages and schools.

10-15 boys or girls sit in a circle. One child holding a bunch of leaves walk outside the circle hiding the bunch behind himself/herself. The player asks "Tholu Veno Tholu, Tholu Veno Tholu (Do you want bunch of leaves ?) in a rhythmic way.

"Tholu venom Tholu, Tholu venom tholu" (Yes I want bunch of leaves) the encircling children answers. While this questioning and answering process is going on the children should not turn back. If any one looks his back side the walking player will beat him with the bunch of leaves. After a few seconds the walking player will put the bunch secretly behind any one of the children in the circle. Then he moves forward as earlier and before he reaches the same spot the child whose back the bunch was placed should have stood up and taken up the bunch. Otherwise he will get beating from the other until he stands and runs around to get back to his place. If the child whose back side the bunch was placed takes the bunch the placer of the bunch should run forward to sit in the formers place. If he fails to do so he will get beating from the other until he does it. The play goes on like this.

There is an interesting question answer 'song' in some places. While playing this game.

When one player say
"Kolakola munthiringa" (Bunches of grapes)
The other group sitting around will jointly say
"Amba resikkam" (We can enjoy)

The Instructional Game

(I) Language

Materials required : Word cards/ Sentence cards, Bunch of leaves

Description of the Activity

Fifteen students can play. The walking player holds a bunch of leaves and a wordcard/sentence card. He walks around and puffs the word card along with the bunch of leaves behind any one of the circled children. The player, whose backside the card is put, has to take and read it aloud. If the boy fails to do so the other will come to him by walking forward and beats him until the first one takes and reads aloud. If he take and reads the card in time the walking player has to go forward and sit in the place of the other. Thus the child who read the card will be the next walking child having the word card and the bunch of leaves.

Purpose

The children who take part have to read aloud the words. His reading competency is developed.

The children have to observe others movements and thus develop observation skill.

(II) Mathematics

Material Required

In Mathematics instead of word cards, addition fact cards are used. Here the player has to read the fact written in the card and say the sum.
For example : If the card has 3+4 on it
The child has to say 3 + 4 = 7
Tried out competency: Adds two numbers mentally

(III) Environmental - Studies

Materials required : Picture cards showing public institutions.

Procedure

All steps are same as of language game. Instead of word cards picture cards are used. When the picture card is placed behind, the child has to say about one service rendered by the particular institution. For example, if the picture is of a police station, the sentence may be 'Police catches thieves' / Police Controls traffic.

Competency Developed : Identifies important public institutions such as the school, Panchayat Office, etc. and knows their importance.

Folk Game III

POO PERUKKAN PORUNNO

Poo perukkan porunno is a folk game mostly played by girls and women. The concept behind the game is marriage. It was common in tribal societies where bride is taken away forcefully. It was strength that decided every thing in such societies. The game is symbolic in this respect.

There are two teams. Each consists of ten members. Group I is the bridegroom's group and Group II bride's group. Group one is going to collect flowers. They ask whether some one is coming with them. The questions and answers are songs.

Both groups stand face to face, when the play begins (see the diagrams). All the players in the group are holding each ones hand.

______________________________________Boundary line for backward movement
....Boundary for forward movement
____Centre line
....Boundary for forward movement
______________________________________Boundary line for backward movement.

Group one moves forward rhythmically singing "Poo Perukkan Porunno Porunno - Athiravile." (Do you want to come with us to collect flowers early in the morning)

Then the other group moves forward and the first group moves back rhythmically. The second group answers as

"Are Ningalkkavasayam Avasyam Athiravile".
(Whom do you want early in the morning?)
The first group come forward singing

"Sithaye njangalkkavassayam Avasyam Athiravile." (We want Sitha early in the morning). The group may choose a name according to their choice (One from the other group)

Gr.II "Aravale Kondu Pom, Kondupom athiravile"
(Who will take her, take her early in the morning?)
Gr. I "Raman Avale Kondupom Kondupom Athiravile."
(Raman will come and take her early in the morning)

By this time both the groups keep their position by the two sides of the central line, face to face. Sithas group tries to catch Rama and Rama's group tries to catch Sitha. There will be a test of strength between the two groups. The group which gets a person (here Rama or Sitha) from the other group will be the winner.

Instructional game

(I) Language

Half of the members in each group wear letter card and the other half wear word cards on their chest. The words of one group should have the letters which are on the letter cards of the opposite group. Example - one group have the alphabet (ksha) in Malayalam. The other group should have a word which has (ksha) in it.

The first group may move forward singing.
"Do you come to pick up flowers early in the morning"
The other group responds.
"Whom do you want early in the morning?"
Group I "We want (ksha) early in the morning"
Group II "Who will take her early in the morning"

Here the player who has a word card which is having the letter 'ksha' has to respond this way: "I'll take her early in the morning."

The other members should keep silent. If any other who does not have word card having the letter (ksha) responds it is not acceptable. Then the opposite group should say "No, No, you can't come early in the morning". Then any other member may claim the right. But the word card on his chest should have the letter (ksha).

The game goes on like this. The matched pairs stand together. For example Ksha and Raksha stand near by. The game continues until all the pairs get matched.

In English class, the letter card can be 'C'. One member of the other group will be holding the word card 'CAT'. Both the identical members can join together. In the instructional game both groups win the game, i.e, there will be win-win situation None lose.

Competency

Recognizes infrequent letters and conjunct letters.

Materials required; Letter cards and word cards.

(II) Mathematics:

Materials required: Number cards, Addition fact cards, Subtraction fact card

As far as Mathematics is concerned the game is applicable in reinforcing addition and subtraction. The modification required here is that instead of word cards, addition flash cards (Eg. 4 + 3) on one side and Number cards (Number up to 18) on the other side.

Competencies

1. Adds two numbers mentally between 0-18 with the sum not exceeding 18
2. Subtracts numbers mentally not exceeding 18

III Environmental Studies

Materials required :

1. Cards showing names or pictures of occupations, categorical names for the people involved in such occupations.
2. Picture cards or name cards of public institutions, cards mentioning the services rendered by such institutions.

Procedure

A slight modification is possible as for EVS is concerned. One group is given word cards showing either pictures or names of different occupations. The opposite group is to be given the categorical names used to identify the people who are engaged in different occupations.

For example : Wood work - Carpenter
Maker of clothes - Tailor

The first group starts with the song.

Group I: 'Do you come to pick up flowers early in the morning'
Group II Whom do you want early in the morning?
Group I: We want driving early in the morning
Group II: Who will take her, take her early in the morning

The person who is having the word 'driver' should come forward miming and then singing

"Driver will take her early in the morning".

The same procedure can be adopted until all the players get matched.

The game can be introduced in the case of institutions and services.

Competencies

Observes and lists occupations carried on in the locality.
Identifies important public places.

Folk Game IV

DAPPA KALI

Two groups are engaged in the original 'Dappa Kali'. Each group consists of seven members, One group has seven small pieces of rounded earthen pot. One of the group members is engaged in arranging the pieces in ascending order, i.e. one above the another. During this time the other six members stand around their friend to protect him and to catch the ball thrown by the opposite group. The opposite group members stand about 5 metres away within a big circle. They throw balls to tumbledown the arranged earthen pieces of the opposite group, If the ball touches the arranged earthen pieces and collapses them that group wins the game. One the other hand if nobody can collapse/tumbledown the pieces the group as a whole will be out and lose the game.

When the ball is thrown six members of the opposite group try to prevent the ball from hitting i.e. on the earthen pieces, or to catch the ball. Here there is a condition that if the ball touches body of any one of the six (body part other than hands) that member should be out. The game may be finished when seven members of the group are out. In the second game task of the group is changed.

Instructional game

The folk game is changed for instructional purpose as given below.

Instead of earthen pot pieces match boxes are used. On the match boxes words, numbers etc. are written. Arranging them in the prescribed order is the task for the players.

I. Language

Materials required:
(1) Seven match boxes on which words are written.
(2) A small ball made of leaves.

Procedure

Seven match boxes (on which certain words are written) are given to the playing group. One player has to arrange them according to alphabetic order from bottom to top. The other group tries to tumbledown. Fellow players try to defend.

If all the match boxes were found arranged the referee or teacher has to verify whether they were in alphabetic order. The words should be displayed and read out to all the children who are standing around. If the teacher finds any box in wrong order it should be brought to the notice of the children.

Competency reinforced

Arranging letters and words alphabetically so that they can use reference books easily.

(ii) Mathematics

Materials required

Match boxes in which numbers are written. The task for the playing group is to arrange the boxes in ascending or descending order which ever is directed.

Competency:

Arranging numbers in ascending and descending orders.

iii) Environmental Studies

Materials required: Match boxes on which names of important festivals are written and different stages of certain occupations.

Arranging according to the sequence of the national festivals in the calendar year or different stages of certain occupations. For example: The case of paddy cultivation.

i) Ploughing
ii) Sowing
iii) Removing weeds
iv) Reaping
v) Thrashing
vi) Measuring

Competency

(1) Knows about important national festivals.
(2) Observes different stages of occupations

5.0 FINDINGS

Development of competencies to the mastery level is the major concern of revised activity based curriculum. Hence, it is worth to mention that the most significant finding of this study is that learning through folk games helps the reinforcement of competencies.

It was observed that both the teacher and the pupil enjoyed teaching learning process based on games. The joy of learning helped to sustain their interest throughout. The participants/players of these games were seen enthusiastic and motivated. Moreover the teacher pupil relationship became more cordial.

Children were found more interested in games which are associated with singing. Children who are found shy to talk and sing openly were found overcoming this limitation in folk games.

It was found from the study that playway method provides ample opportunities for learner-learner and learner-material interaction apart from teacher-learner interaction common in our traditional classrooms.

Co-operative learning activities are rare in our normal classroom practices. Another notable finding of the study was that the inclusion of folk games as a strategy of learning helped to develop qualities such as co-operation, healthy competition, team spirit, leadership, wait for ones own turn etc.

If was surprisingly noticed that low achievers in regular classes showed considerable progress both in participation of activities and achievement.

6.0 SUGGESTIONS

There is a tendency to imitate class room games and songs of other countries inspite of our original ones. Instead of going behind "Twinkle, twinkle little star" we can use in class rooms our own folk songs which are more familiar to our children. Our country is rich in folk ballads, games and fairytales. So it is advisable to exploit indigenous games to this end. If teachers are motivated to use folk games for instructional purposes this area will find due place in our schools.

DIETs and SCERT can organise necessary programmes to gather information about folk games and conduct workshops to transform them suitable for classroom instruction. If so, that will be a good contribution towards the conservation of our rich cultural heritage.

7.0 REFERENCES

- Bhatia. S.K (1995) Learning through Games. *Journal of Indian Education 31* (2) 18-23
- Chummar Choondal *Studies in Folklore of Kerala.* College Book House Thiruvananthapuram
- Jacob . K (1972) *Folk Tales of Kerala* Sterling Publishers, New Delhi.
- Narayana Panicker, Kavalom (1991) *Folklore of Kerala,* New Delhi, National Book Trust.
- N.C.E.R.T (1991) *Minimum Levels of Learning at Primary stage* NCERT. New Delhi
- Raghavan Payyanad (1986) *Folklore* Kerala Bhasha Institute, Thiruvananthapuram.

ROLE OF AFFECTIVE STRTEGIES ON ENHANCING THE COMMUNICATIVE COMPETENCE

A.Jahitha Begum and S.Mohan

1.0 INTRODUCTION

In this global village, English has become necessary for mobility and social and economic success. English is the language of opportunities because it takes one outside one's own community, to places where more opportunities are available for professional and economical reasons. English is pragmatically viewed as a 'window of the world'.

2.0 COMPETENCY BASED TEACHER TRAINING PROGRAMME

The Constitution of India provides for free and compulsory education for all children up to the age of 14 years. Educational reformers and researchers planned so many schemes to achieve the goal of Universal Primary Education (UPE). Yet today, even after a lapse of more than 55 years after independence, much still remains to be done particularly in rural parts of India. Children have to be moulded and guided for proper development of their innate talents and for that purpose; the teacher must possess the required competencies, skills and the bent of mind.

Competence is nothing more than an improved modern term applied to an ancient human value; for example, the right way of doing thing is the competent way; the right way to perform a job, the right way to live and work in association and cooperation with others. In other words it means a desired quality of job performance. The qualities of competence are enthusiasm, fluency, industry, neatness, originality, adaptability and thrift. The training for competence has always been and still is largely training for creating abilities or qualities that are placed in actual job situation /context. Competence does not result from possession of great amount of knowledge. It must become functionally operative at the appropriate time. Knowledge must be integrated into a pattern of behaviour to serve a useful purpose.

Applied to teachers, competency means the right way of conveying units of knowledge, application and skills to the students. The right way includes knowledge of contents as well as the processes, methods and means of conveying them in an interesting way, involving the activities of students. In short a competent teacher makes the teaching learning process a joyous experience for children and also to himself/herself.

Teacher Education is a research based understanding of teachers competencies. Contextual, conceptual, content, transactional, evaluative, management competencies related to preparation of teaching and learning materials (**TLM**), working with parents, colleagues and community, organization of school activities, use of computers and video discs are the major concerns of teacher education.

3.0 AFFECTIVE STRATEGIES

The term 'affective' refers to emotions, attitudes, motivations, and values. It is impossible to overstate the importance of the affective factors influencing language learning. Language learners can gain control over these factors through affective strategies. Some of the affective strategies are lowering anxiety, encouraging oneself, and emotional temperature.

The affective domain is impossible to describe within definable limits. Douglas Brown. It spreads out like a fine-spun net, encompassing such concepts as self-esteem, attitudes, motivation, anxiety, culture shock, inhibition, risk taking and tolerance for ambiguity. The affective side of the learner is probably one of the very biggest influences on language learning success or failure. Good language learners are often those who know how to control their emotions and attitudes about learning. Negative feelings can stunt progress, even for the rare learner who fully understands all the technical aspects of how to learn a new language. On the other hand, positive emotions and attitudes can make language far more effective and enjoyable.

3.1 New Role for Teachers

By tradition teachers expect to be viewed as authority figures, identified with roles like parent, instructor, director, manger, judge, leader, evaluator, controller, and even doctor who must 'cure' the ignorance of the students. According to Harmer, the teacher instructs. This is where he explains exactly what the students should do. These familiar roles will stifle communication in any classroom, especially the language classroom, because they force all communication to go to and through the teacher.

The spectre of role change may discomfort some teachers who feel that their status is being challenged. Others, however, welcome their new functions as fácilitator, helper, guide, consultant, adviser, coordinator, idea person, diagnostician and co-communicator. New teaching capacities also include identifying students' learning strategies, conducting training on learning strategies and helping learners become more independent. In this process, teachers do not necessary forsake all their old managerial and instructional tasks, but these elements become much less dominant. These changes strengthen teachers' role in making them more valid and more creative. Their status is no longer based on hierarchical authority, but on the quality and importance of their relationship with learners. When students take more responsibility, more learning occurs and both teachers and learners feel more successful.

4.0 MEDIATED LEARNING EXPERIENCE

Reuven Feuerstein's theory of Mediated Learning Experience stresses the importance of affective strategies and the role of the mediator in bringing modification in the cognitive behaviour of the learners. Using a mediated approach and encouraging the learner to think of ways to make learning tasks easier, the trained mediator leads the learner to recognize the need to apply a rule or principle in order to solve the problem before the learner. (Learning to Learn: Mediated Learning Experience and Instrumental Enrichment, **Feuertein, Hoffman M. Rand, Jensen, Tzuriel, Hoffman D, 1991**)

According to Feuerstein's theories, a change within an individual requires a process, and that process relies on a number of factors which are significant. They are,

- The individual recognizing the need to change
- The belief that change can occur
- The means and methods to make it happen
- The correct programme of intervention
- The skills, generalization and principles derived from the programme
- The application of those generalizations into real life situations

Feuerstein states that we all have the capacity to change. He talks about the child's potential instead of his static measured intellect. The theory of Structural Modifiability suggests that the brain is a living organism which is capable of adapting and changing. Instead of adapting the environment to suit the low functioning child, Feuerstein's theory invites us to think how we can modify the child to adapt to the environment by giving him the cognitive tools he needs to become an active, autonomous and active learner. Feuerstein speaks of a 'passive acceptance approach' which allows acceptance of the low level functioning of an individual as static or immovable, thus perceiving the individual as a closed organism. He also states that we should perceive the child, an open system that is receptive to change and therefore modifiable.

The role of the mediator plays a vital role to bring modifiability in the learner. Feuerstein asks the mediators to turn the pointed finger away from the child and her disabilities towards them and ask

'Have I done everything possible to change this child?'
'How to bring about change in the child?'
'And what programme do I use to bring about that change?'
'How to bring about change in the child?'

The 'how' is answered by applying Feuerstein's method of intervention called, the Mediated Learning Experience, which places the role of the mediator as central to the child's ability to change. This is the qualitative aspect of the method. It is the mediator who has the role to act as an interpreter of the world for the child by filtering the stimuli with which the child is presented. Mediated Learning Experience has successfully applied his methods to a very wide range of populations with specific learning difficulties, including gifted underachievers and dyslexic children in mainstream school.

Economically disadvantaged, ethnic minorities who live in communities that contain contaminated sites are disproportionately exposed to high levels of toxic pollutants such as lead, mercury, cadmium, nickel, chromium, etc., causing brain damage, learning disabilities and many other problems. These individuals also belong to groups that have the highest morbidity and mortality rates in the United States. Data from twenty cognitive interventions using Feuerstein's Instrument Enrichment / Mediated Learning Experience **(FIE / MLE)** to teach critical thinking skills to groups of these individuals across the country show increases in cognitive modifiability enhancement in motivation, self-esteem, and feeling of competence.

4.1 Mediated Learning Experience and Language Learning

Julian Edge-(1993) in his book "Essentials of English Language Teaching" stressed the importance of the learner's motivation, attitude, confidence, security and willingness to take risks.

Positive emotional environment

The secure, motivated learner is prepared to make a personal investment in learning. Positive emotional involvement leads to effective learning. The motivated learner is prepared to make a personal investment in learning. The learners will talk about themselves and about things that matter to them. In this atmosphere they will also listen with respect to what others have to say, when language use is meaningful it is also memorable.

Neurological research stresses the importance of emotions which are very much a factor in learning. The theory MLE doesn't focus on the cognitive side, but looks at emotions too. A positive learning environment, a positive attitude towards diversity, a positive belief in the worth of all children, mutual appreciation and respect play an important role in language learning. **Ronald carter, David Nunan (2001)** in their book, 'Teaching English to Speakers of Other Languages' stress the importance of affective strategies which includes identifying one's feelings, (anxiety, anger, contention). Negative attitudes and beliefs can reduce learner's motivation and hamper language learning.

Vygotsky – It is through communicative processes, mostly mediated by speech, the adults establish social interactions with children, which play role in child's cognitive development. **Wong-(1992)** – intrinsically motivated people do things for their own sake, rather than an external reward. Intrinsic motivation is an essential principle of Mediated learning experience. To enhance motivation involving learners in the decision making process about what to learn and how to learn and encouraging them to take responsibility for their own learning can be a major way of enhancing motivation.

Ann Brown et.al.(1993) in their cognitive apprentice program mention about the role of the mediator. Learning takes place in the context of complete, meaningful activities. Students learn by participating in these activities with the modelling and guidance of a master. **Klippel(1984)** – one way of helping students to enjoy their language activities and of building up their confidence is to explain them what they are doing in the class and why.

David Nunan speaks about 'Transcendence' an essential principle of mediated learning experience. When learners go beyond the classroom and make links between the content of the classroom and the world beyond the classroom they are said to be in transcendence which plays an important part in language learning.

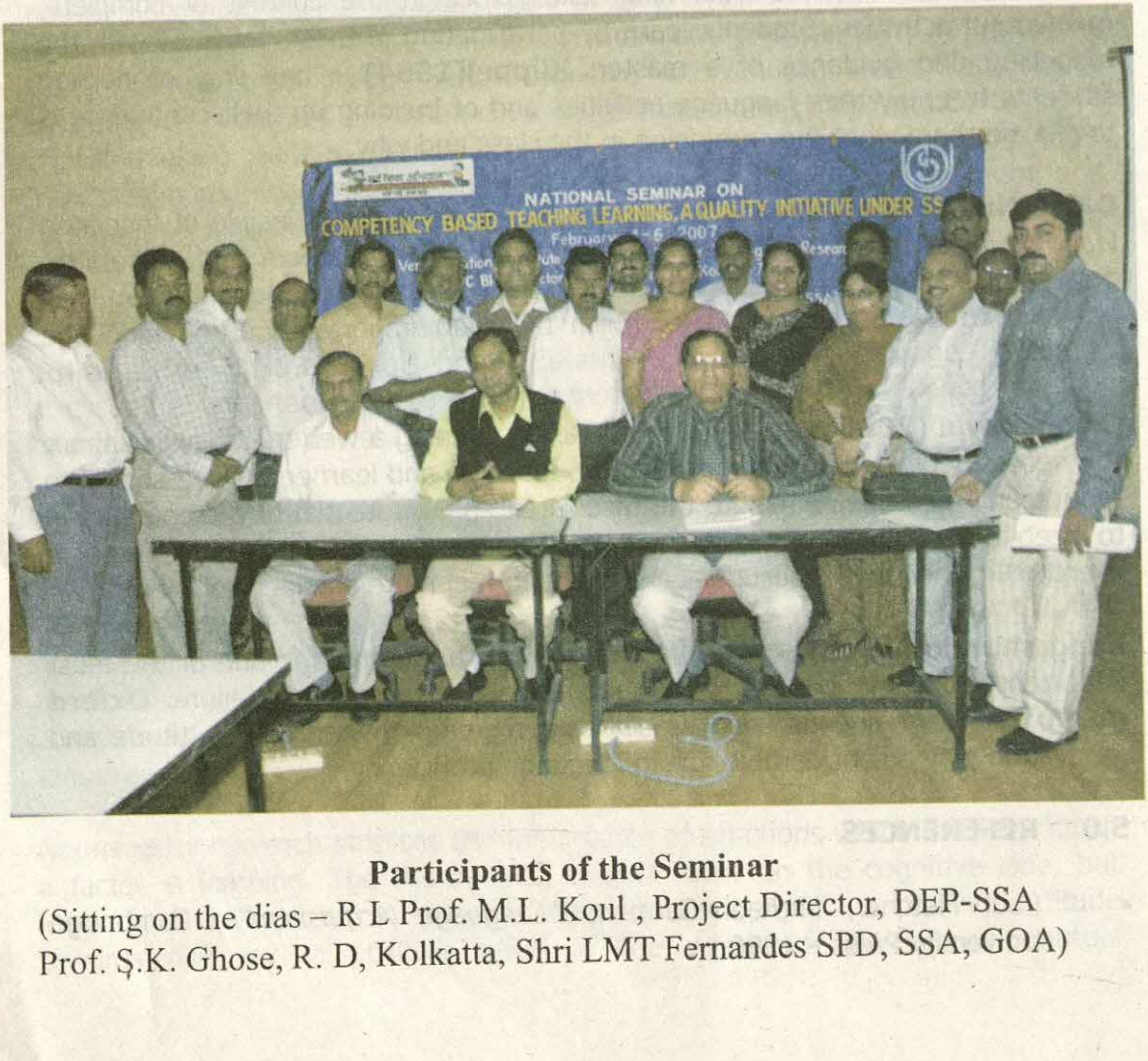
Clyde Fowle (2000) in his model of 'teacher training a web trust' speaks about the necessity of mutual trust between the teachers and learners. It is essential to reduce or if possible, eliminate the face threatening potential of the course and to keep the teaching environment safe. The learners are to be supported in overcoming their own insecurities and made to feel more confident of them.

Kang shumin (1997) – The affective side of the learners is one of the most important factors influencing on language learning success or failure. **Oxford (1990)** – The emotions such as self-esteem, empathy, anxiety, attitude and motivation play a considerable role in language proficiency.

5.0 REFERENCES

- Paul Fletcher, Michael Garman, "*Language Acquisition*"–, Cambridge University Press – 1996.

- David Moxenn. Heniemanne , "*Heinemann Themes in Psychology Memory*" -Educational Publishers, Oxford 2000.
- Daniel Reisberg, "*COGNITION – Exploring the Science of the Mind* " — Read college, WW Nortan & Company – Newyork 1997.
- Herbert H.Clark, "*Using Language*" –- Cambridge University Press – 1996.
- Michael O' Malley, Anna Uhl Chamot, "*Learning Strategies in Second Language Acquisition*" – Cambridge University Press – 1990.
- C. J.Brumfit, K.Johnson, "*The Communicative Approach to Language Teaching*" — Oxford University Press – 1991.
- Oxford "*Teaching Communication Skills*" -English Language Teaching Journal Vol. 56/2, April 2002,
- Ceyde Fowle. "*The Teacher Trainer*" – Vol .14 No3,. "Teacher Training A Web of Trust" P-6-8, Autumn 2000
- Kang Shumin, Forum – Vol .15, No3 /, P.No.8 , "*Factors to consider Developing Adult EFL students speaking abilities*". Journal of Curriculum and Supervision, Vol. 2 No. 2, Winter 1987


NATIONAL SEMINAR ON
COMPETENCY BASED TEACHING LEARNING, A QUALITY INITIATIVE UNDER SS
February 4-6, 2007

Participants of the Seminar

(Sitting on the dias – R L Prof. M.L. Koul , Project Director, DEP-SSA
Prof. S.K. Ghose, R. D, Kolkatta, Shri LMT Fernandes SPD, SSA, GOA)

NOTES

NOTES

DEPSSA-IGNOU/P.O.7.5T/MARCH, 2008

Printed by : Karan Press, Z-41, Okhla Industrial Area, Phase-II, New Delhi-110020